

THE AUTHENTIC HISTORY OF
THE UNITED STATES
STEEL CORPORATION

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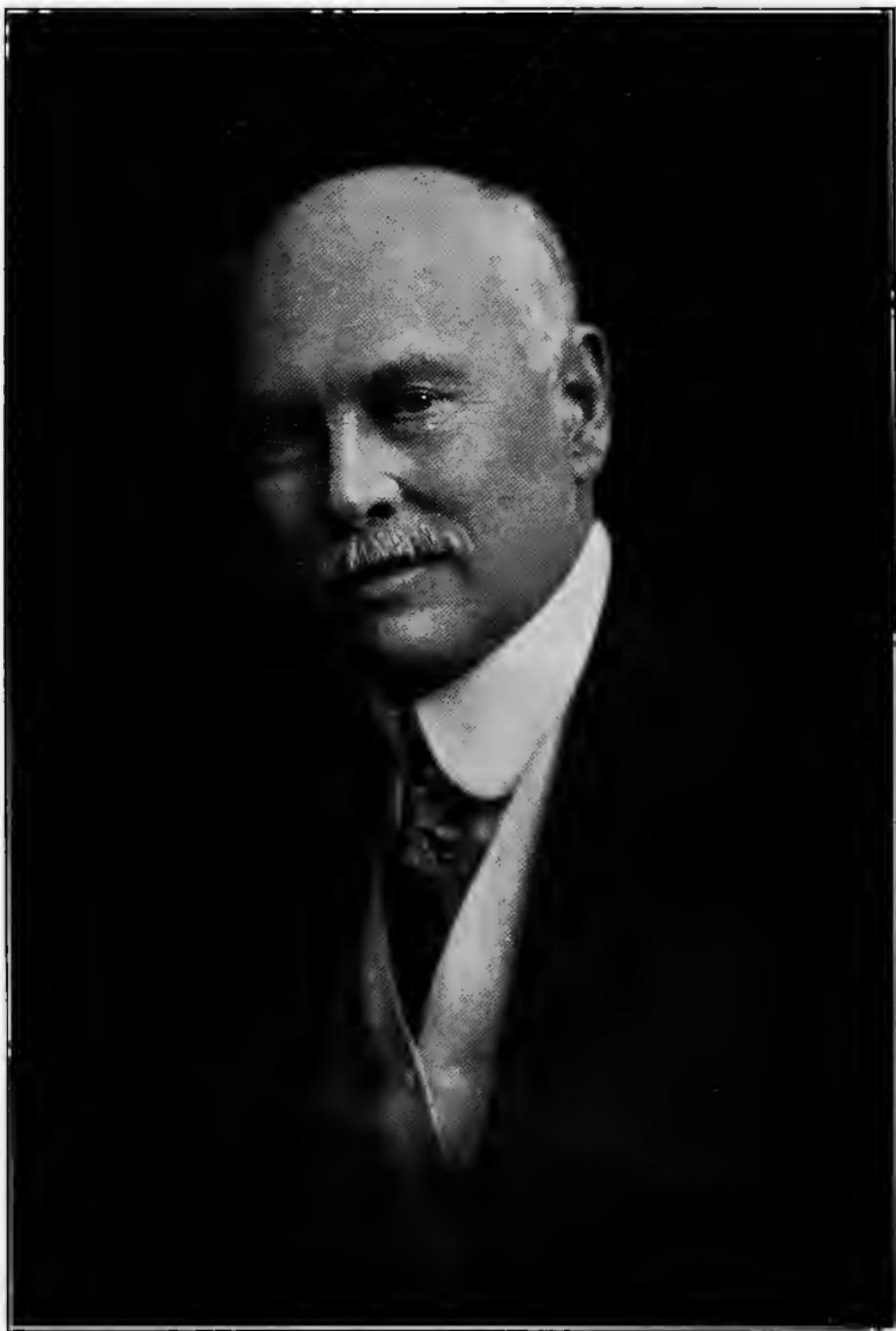
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THE AUTHENTIC HISTORY OF
THE UNITED STATES
STEEL CORPORATION



CHARLES M. SCHWAB



HON. ELBERT H. GARY

"The History of the United States Steel Corporation is the story of how Gary carried out his dream."

THE AUTHENTIC HISTORY OF
THE UNITED STATES
STEEL CORPORATION

BY ARUNDEL COTTER

New York
The Moody Magazine and Book Company
1916

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To THE
HON. ELBERT H. GARY
CHIEF EXECUTIVE OFFICER
OF THE
UNITED STATES STEEL CORPORATION
THIS WORK IS RESPECTFULLY
DEDICATED

FOREWORD

It is not the intention of the author of this History of the United States Steel Corporation to compile a work of reference for the steel man. Such a task must properly be left to the trade expert. His object merely is to narrate, in as interesting a form as he is able, the principal events leading up to the incorporation of the mighty company, to tell its objects and its policies and the results therefrom on labor, the corporation itself and industry generally.

The writer believes that these events contain a considerable amount of human interest, and it is in this form that he has endeavored to relate them. If he succeeds in bringing home to the steel stockholder, to "the man in the street," what the Steel Corporation has stood for, what it still stands for, his labor will not have been in vain.

A very large part of the facts narrated were obtained from the sworn testimony in the Government suit for the dissolution of the Corporation. The whole story of the big company is contained in this mass of testimony, but the form in which it is there told is too lengthy and complicated, too full of repetition and technicalities, to interest any but the legal mind.

Of necessity, in order to confine within the limits of a single volume the history of the greatest industrial enterprise in the world, many facts and events, interesting of themselves and worthy of record, have been omitted. Only the most salient features have been touched on.

In conclusion, the author freely admits a prejudice in favor of the corporation. He sincerely believes that its organization marked the dawn of a new and better era in industrial history, how and why the reader will discover in the story itself.

ARUNDEL COTTER.

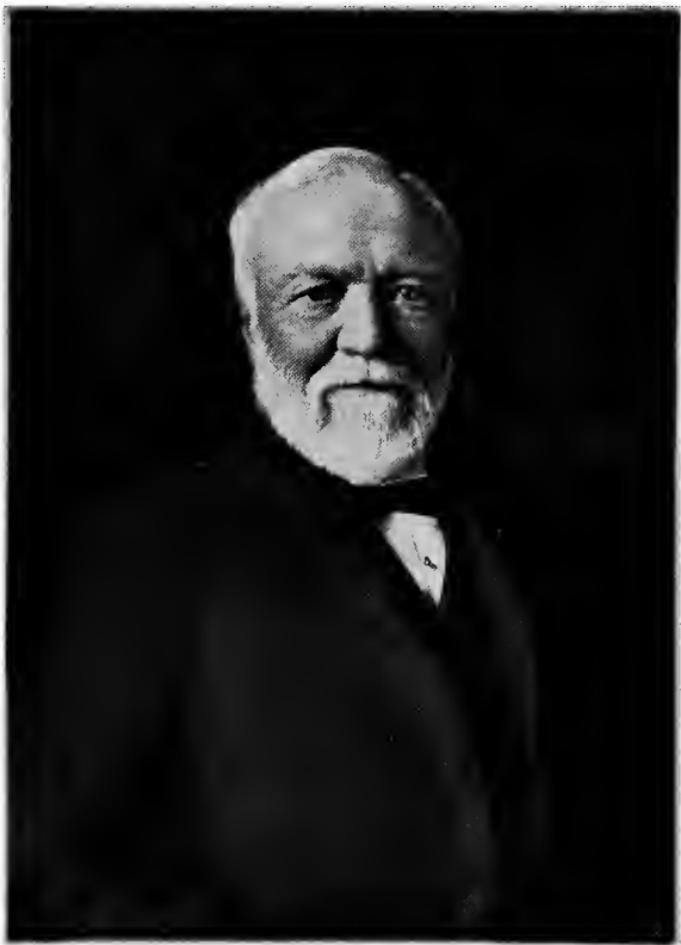
New York, Jan. 1, 1916.

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Yours truly
Andrew Carnegie

CHAPTER I

EVENTS PRECEDING THE ORGANIZATION

IF the United States Steel Corporation had been nothing more than the biggest business in the world, its enormous size and the immensity of its operations would justify the historian in placing upon record the details of its organization and the events connected with its existence.

The "Steel Trust's" vast capitalization, a billion and a half of dollars, or three-quarters of the gold coin in the United States; its yearly turnover of three-quarters of a billion dollars, or the annual value of the cotton crop of the South; its payroll of a quarter of a million men, enough to populate a good-sized city—or, with their families, over a million souls, the population of a town that would rank high among the cities of the world; its annual production of over twelve million tons of finished steel, some 240 times the displacement of the biggest vessel ever built, the volume of freight carried on its great fleet of ore boats, several times the freight tonnage passing through the Suez Canal; its foreign trade amounting to over two million tons a year, and of a value of nearly a hundred million dollars—these alone would make the Steel Corporation's history worthy the telling. But these things, properly considered, are only secondary, and their importance lies largely in the bearing they have on something of far greater consequence—the big company's influence upon the industrial history of the world. For the organization of the Steel Corporation marked the beginning of a new era in industry.

It was, in a modified sense, an experiment in popular ownership, in the ownership of industry by labor, for it

substituted for the limited ownership by a few men of a number of more or less important industrial units, one gigantic unit owned by a multitude. Today the Steel stockholders number 150,000, in round figures, and of these not less than 50,000 are employes of the corporation.

The organization of the Steel Corporation marked the dawn of a new industrial era in another way, for the big merger proved a potent influence in putting an end to the period of cutthroat competition in steel that existed in the later years of the nineteenth century—a competition so ruthless that no means of getting business from a competitor appeared to be considered too unfair or too ignoble for employment—and substituted, if the declarations of its competitors themselves may be credited, the reign of a spirit of fair play, of competition still, but competition clean and above-board and governed not solely by greed, as in the past, but by the new principle of the square deal between one manufacturer and another, and extended to the consumer and the worker a recognition of the rights of all.

In order to get a true perspective on the events immediately leading up to the formation of the United States Steel Corporation, it is necessary to review briefly the history of the steel industry in the United States during the latter half of the nineteenth century, and especially during its closing decade. In a short half-century steelmaking in America had grown from the age of swaddling clothes to full manhood, or rather gianthood. It stood supreme among industries. From being unimportant among the iron and steel producing nations, the United States, in a comparatively few years, had forged its way to the first place. Its steel mills turned out nearly half of the hard metal used by the world. Steel, from being an industry composed of a few scattered mills situated as near as possible to ore deposits with little regard to markets, had become one consisting of great corporate entities each made up of many plants, and these had in their service railroads

and steamships plying to and from ore fields situated sometimes hundreds of miles from the plants, but capable of bringing to the mills such quantities of the raw metal as but a short time before had not been known to exist. It had bent to its use every modern invention, the newest discoveries of science. Fortunes had been spent, won and lost, in building up these great structures. But—and this is important—it had been an industry subject to the most amazing fluctuations, periods of feast being followed closely by periods of famine.

It was a period, as has been suggested, of war to the knife between manufacturer and manufacturer, war in which no quarter was asked or given. The history of the steel industry in America bristles thick with the names of millionaires who worked their way to fortune from the slag pile. And for every one of these there are many, whose names are forgotten, who sacrificed health, strength and fortune in the mad fight for the wealth that poured in unstinted stream from the glowing furnaces of molten iron. The law of steel was essentially that of the survival of the fittest.

Perhaps there is no other great industry that has been so subject to fierce and unrestrained competition as steel making. To understand why this is so it is necessary to get an idea of the abnormal conditions influencing it. The discovery of the Bessemer process—about the middle of the nineteenth century—by which steel could be made cheap enough to permit of its general use, found a world more than ready for it, and the demand for the metal grew by leaps and bounds. The Age of Steel did not dawn; like the tropic day, it broke with fierce glare. The sudden demand naturally opened up vistas of previously undreamed-of wealth for those who could supply it, and, in the desire to secure this wealth, production sprang forward so quickly as even to outstrip the demand, strong as it was. Then ensued the inevitable battle for the spoils, a battle that lasted until consump-

tion took another spurt, which, in turn, resulted in quickening output and a resumption of the battle.

At that time the country was just opening up. Railways were stretching their lines into the golden regions of the West; manufacturers of farm implements were calling for steel to be fashioned into tools to reap the rich crops of the wide prairie lands; inventors were each day evolving some new use for the metal. Was it any wonder, then, that steel became a world necessity and that the blast furnace became a philosopher's stone that transmuted the dull ore into precious gold? More and larger fortunes, it has been truly said, were made out of steel in the second half of last century than ever came out of the mines of the West or the diamond mines of South Africa. And in the insane struggle for this so-freely-poured-out wealth men lost all sense of proportion.

It was inevitable that there should be a dark side to the picture and that it should be particularly black in obedience to the natural law that provides that the severity of the fall shall be proportioned to the height of the climb. The boom times of the steel trade were succeeded with disheartening regularity by periods of dearth. One year steel manufacturers were building themselves palaces and purchasing steam yachts, the next they were mortgaging all they had to pay wages. One year the steel worker was a man favored above all others of his class, the next he was getting his meals on charity from the "soup houses." To this day steel veterans speak of the dull times of the trade as "soup house days."

At these times competition, always fierce, became more ruthless than ever. The old adage regarding love and war was stretched to include the steel industry, and everything was considered fair that might help to keep the mills running full. Prices were cut—and wages with them; steel was "dumped" on foreign markets at less than manufacturing cost, and steel makers resorted

to every means that offered to divert orders from competitors to themselves. It was a case of dog eat dog, and failures, with their unavoidable accompaniment of unemployed labor, were all too frequent.

There is hardly anyone who has not heard of the now famous steel "pools." These were simply attempts on the part of the steel makers—who thoroughly realized that the killing competition just described could benefit no one—to protect themselves in times of stress by binding each other not to sell below a certain price or more than a certain tonnage, and by making it of no avail, from a viewpoint of profit, to do so. There were rail pools and wire pools, shafting pools and plate pools, structural pools, horseshoe pools, and in fact a separate and distinct pool for nearly every steel product made. These pools were merely treaties, but treaties in which no participant trusted the other and which consequently were broken by each as soon as the opportunity to get ahead of his fellow pool member presented itself—lest the other should get a similar opportunity first and take advantage of it.

It is doubtful if a single pool agreement, and their number was infinite, was ever honestly kept. Old steel makers chuckle today as they relate how each representative of a company taking part in a pool sought to gain an advantage over his competitors while the pool was yet a-borning. Listening to them one begins to wonder if these were indeed men who bore high and honorable reputations in the business world, to feel a growing respect for the honor that is said to exist among thieves.

According to the statements of men who themselves took part in pools, it was no uncommon thing for a manufacturer to station a salesman outside the building where a pool conference was being held and, as soon as a price settlement was reached, to stroll casually over to a window and by prearranged signal indicate to him the level agreed on, whereupon the salesman would pro-

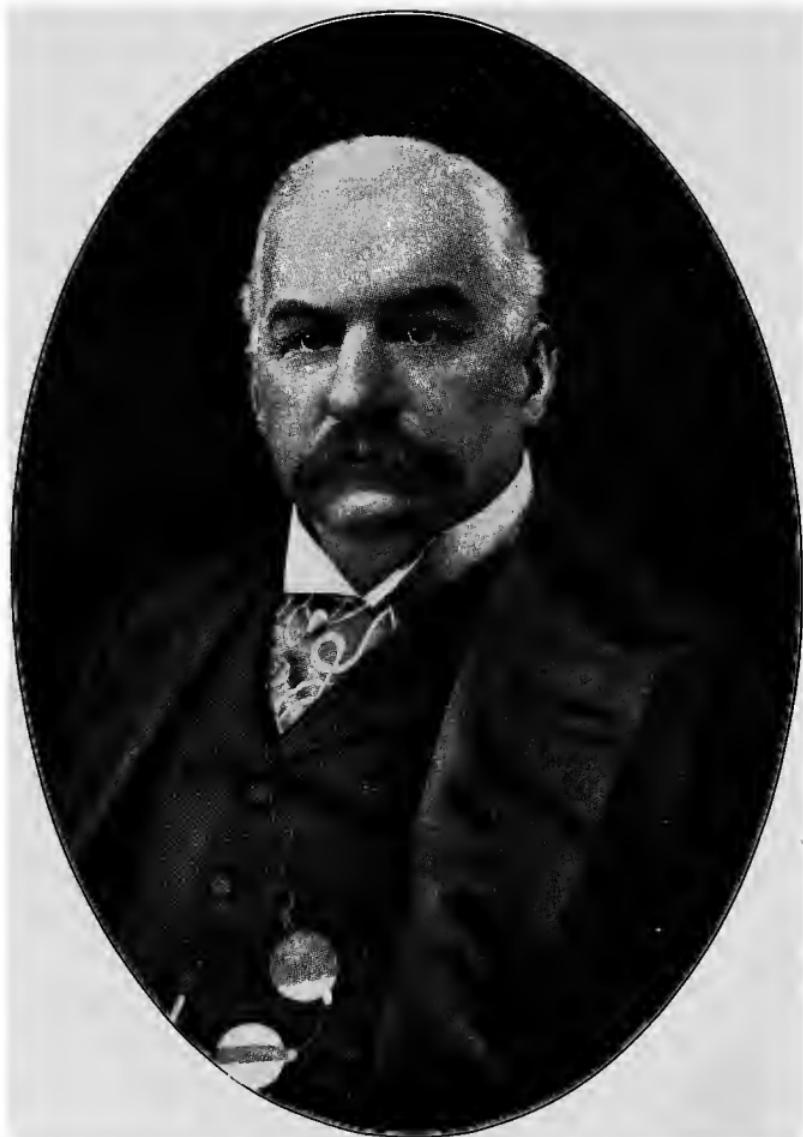
ceed to undercut the price which his employer was even then pledging himself to maintain.

"Every man's hand was against his neighbor then; we were all Ishmaelites, every one of us," said John Stevenson, Jr., a veteran who had worked under Carnegie, in his testimony in the Federal suit for the dissolution of the corporation. Mr. Stevenson then went on to relate the story of a wire pool conference at which a price of \$1.50 a keg had been agreed on for nails. After the morning conference he went to the telegraph office to wire his partner and found one of his fellow conferees there. He waited until the other handed in his message and walked away. While Stevenson was writing his own wire the operator, in mistake, handed him his competitor's, with the question, "Is this alright?" And Stevenson discovered that the wire in question was an offer to a large consumer to sell him 10,000 kegs of nails at \$1.40!

Another instance, related by a large consumer, shows how these agreements were evaded. He said that the company from which he purchased his supplies of steel pleaded the force of a pool agreement as an excuse against giving him a discount from the market price. He then suggested that he be appointed agent of the steel company in his town at a commission of a dollar a ton, and this solution of the difficulty was agreed to. He was the only consumer of steel in the town and the commission was only a round-about way of giving him the discount asked.

In the fierce and bitter struggle that was the steel trade, only the most daring or the most unscrupulous manufacturer could survive, and under the strain for production that it necessitated only the strongest workers could live. No one, unless he has been through a steel plant, can imagine the conditions under which the steelmaker works. The visitor, unaccustomed to the heat that is flung from blast furnace or rolling mill as from the gates of hell, must perforce hold his hands

A
BEAUTIFUL
MAN



J. P. MORGAN

before his face at times to mitigate the frying sensation. True, much has been done of recent years to make the lot of the man at the furnace or rolling mill easier, his work less trying on his health. But at the time of which I am writing this was not the case. Under the most favorable conditions the steel mill, as a well-known steel maker said not long since, is far from being a drawingroom. Under the conditions that prevailed toward the end of the last century, when men were worked to the breaking point in the mad fight for "tonnage," it was no wonder that the majority of steel workers collapsed early under the strain and were thrown on the human scrap pile, their vitality sapped and their youth gone.

The one slogan of the industry then was "tonnage." Everything was sacrificed by the manufacturer to this single end. Machinery, comparatively new, was scrapped to make room for more modern equipment. Waste of this kind was not considered. Production was everything and nothing was spared to obtain increased output. And it must be admitted that to this attitude on the part of producers, as much perhaps as to her immense natural advantages, the United States has owed her rapid rise to the front rank of steel nations.

In the middle of the nineteenth century American steel making was in its infancy. In fact, this is also true of the steel industry of the whole world, for it was about this time that William Kelly in America and Henry Bessemer in England discovered what is known as the Bessemer process, which made the metal available for the numberless commercial uses to which it is now put. As late as the early sixties the idea of using steel for railroad rails was scoffed at. In 1867 there were only three Bessemer plants in this country. Great Britain supplied the world's steel. But shortly after the third quarter of the century was passed the United States forged to the lead, and has held it ever since. In the year 1900 the steel production of this country was

10,188,329 tons, Germany coming next with 6,645,869 tons and Britain third with a production of 4,901,060 tons. In 1913 the United States produced 31,300,874 tons of steel, or more than Britain and Germany combined. Today the rolling mills of Pittsburg alone turn out one-quarter of the world's steel.

The name of Andrew Carnegie is inextricably bound up with the history of steel in the United States—and the world. "The Iron Master," the "Steel King"—by these names he was known, and he deserved them. For more than a quarter of a century Carnegie was the most important and spectacular figure in the world of steel, and his name will not be forgotten so long as there is a rolling mill in Pittsburg.

Carnegie's rise from utter obscurity until he became the dominating figure in the leading industry of the world reads like a page out of fiction. Only a very brief outline can be given here. Born in Dumferline, Scotland, in 1835, the future Monarch of Steel came to the United States with his father at the age of thirteen and started his career as a bobbin boy in a cotton mill at a wage of \$1.20 a week. At the age of fifteen he became a telegraph messenger and later an operator for the Pennsylvania Railroad, and his ability soon attracted the attention of Col. Thomas A. Scott, head of that system, who made Carnegie his private secretary. Thus the young Scot got his first foothold on the ladder of fortune. He saved his money and in 1864 made his entrance in a quiet way on the stage of the iron industry, purchasing a one-sixth interest in the Iron City Forge Company. One of his partners in this enterprise was Henry Phipps, the playmate of his boyhood. And Phipps and Carnegie stuck together through good fortune and through bad until the latter's retirement from active business. Later Carnegie saw a Bessemer converter in operation, one of the most impressive sights in the making of steel, and this converted him from an iron man into a steel man. He began to manufacture

steel, and with phenomenal success. Breaking down all obstacles in his way to fortune he became a terror to competitors, but although he was probably well hated, he was also respected.

In 1901 Carnegie sold out the steel business he had built up to the organizers of the United States Steel Corporation for \$303,450,000 in 5 per cent bonds and \$188,556,160 in common and preferred stocks of the new company, a total price of \$492,006,160!!

The mark that Carnegie left on the industry will never be wiped out. In his later days, as steel king, he set the pace for all others to follow. And it was a fast one. Pitiless to his competitors, he had the gift of drawing to him men of high ability; he was a wonderful judge of men, and to his friends he was generous and open. He was a born commander, a Napoleon of industry. Having a wonderful ability for organization and a passion for power he built up an organization that has only once been surpassed in the world of trade, an organization that was at the same time utterly loyal and extremely efficient.

Whether or not Carnegie made the best use possible of his undoubted abilities it is for posterity to decide. Beyond question America's pre-eminence in steel is due largely to him. But he was also at least partly responsible for the situation that existed in the steel trade in his day. Production, tonnage, was his fetish, for in this he saw the only means of reaching and keeping his supremacy, and to gain it he did not spare himself, the men under him, or least of all his competitors. His one effort was to keep his mills running full, and everything was made subservient to that end. Where he led others had to follow, and it was to this attempt to keep up full operations at all times that the exaggerated competition and the "soup house" periods it caused was, to a great extent, due.

It is not generally recognized that Carnegie was

largely responsible for the formation of the United States Steel Corporation. The part he played was a quiet one. He wanted to sell out and retire—to devote his life to philanthropy, education and the cause of peace. To sell out he must find a customer. And the stars in their courses fought for him. The devil's luck with which many of his competitors credited him stuck, and he succeeded in accomplishing the sale.

The frequent and prolonged periods of depression had forced upon steel makers the conviction that some way of combining to prevent their recurrence was desirable, even necessary, if the United States was to keep and increase its lead in the manufacture of the metal most needed by the age. Between the years 1890 and 1900 combinations in industry were as thick as the leaves in Vallambrosa. And steel had not escaped this tendency to amalgamate. The country's wire plants had been merged gradually into one company, the American Steel and Wire Company of New Jersey, controlling all but a small number of wire mills. A somewhat similar situation existed in regard to tin plates, tubes and fabricated products. What might be called the steel companies proper were themselves all mergers of a number of small plants, although there was nothing like centralized control and the trade was divided among several large competing units. But a merger of these companies had been talked of time and again, and its eventual accomplishment was generally considered inevitable, sooner or later, unless Carnegie succeeded in crushing all competition and establishing a virtual monopoly for himself, as many thought he would. The time was ripe for a big steel combine.

And the time being ripe, the man was provided, the man destined to take Carnegie's place as the central figure of the steel industry, not only of this country but of the world. He was Elbert H. Gary, then president of the Federal Steel Company, a New Jersey corporation and one of the Carnegie Company's largest competitors.

Born on a farm near Wheaton, Ill., and educated to the practise of the law, Gary's work brought him into connection with many large corporations, including the Consolidated Steel and Wire Company and the Illinois Steel Company, for which he was general counsel. Gary became a director of the Illinois Steel Company, and when the Federal Steel Company was organized in 1898 as a merger of the Illinois and other companies he took a leading part in the work of organization. The executive ability he displayed so impressed his associates and the Morgan interests, who financed the merger, that he was unanimously chosen president of the new company, much to his surprise, he has since declared. This first gave him a prominent part on the stage of steel, on which he has been the most striking figure ever since.

Gary's ambition, like Carnegie's, knew no bounds; but, where the little Scotch ironmaster worked to make the steel industry an empire over which he should reign supreme, the former farmboy dreamed of an immense Republic of Steel. Where Carnegie sought to unify the control of the steel trade and bring it into his own hands, Gary sought to make it an industry owned by the people, and particularly by the workers. Where Carnegie stopped at the ocean and gave his attention to world business only at times when over-production at home compelled him to seek foreign markets temporarily, Gary sought to establish a world-wide and permanent market for the product of the blast furnaces and rolling mills of the United States. And the history of the United States Steel Corporation is the story of how Gary carried out his dream.

But the Federal Steel Company, its president soon found, was not an instrument big enough or suitable for the carrying out of his plans. In the first place, its plants were located at too great a distance from the Atlantic seaboard to render an invasion of foreign markets feasible. Freight rates to the ocean were pro-

hibitive. And another hindrance was encountered in the severe ups and downs to which the steel trade in this country was subject. He saw that, if his dreams were ever to come true, the Federal Steel Company must be enlarged and expanded, must provide itself with plants able to export steel in competition with Great Britain and Germany, the countries which ruled the international markets, and must so strongly entrench itself that it would not be too greatly affected by periods of stress.

One man there was who could provide the wherewithal for the expansion which the head of the Federal Steel Company considered necessary. This was the late J. Pierpont Morgan. To Morgan, then, Gary took his plans, but the banker was not enthusiastic. Perhaps he saw that few steel concerns were making money and feared to put so large an amount of capital as was required into the venture; perhaps other motives governed him; but, whatever his reasons, the great financier hesitated, would not permit himself to be convinced. Again and again Gary tried to persuade Morgan, but in vain, and at length Gary, satisfied that he must seek other means to his end, turned his attention toward raising the necessary capital elsewhere. He had already prevailed upon his fellow directors of the Federal Steel Company to pledge subscriptions to a large sum for the purchase or erection of new plants, when circumstances played into his hands. Morgan decided to give his backing to the formation of a giant steel merger on the lines Gary had proposed.

The story of how Morgan was won over is an interesting one. It has already been suggested that Carnegie was anxious to sell out, and Carnegie usually got what he wanted. After many attempts to conclude a satisfactory deal with different syndicates Carnegie, like Gary, arrived at the conclusion that Morgan, and he alone, was able to engineer the purchase of his proper-

ties. Therefore, he decided, Morgan must be induced to buy.

At first Carnegie tried ordinary tactics. He had mutual acquaintances suggest to the banker the advisability of a deal by which the Carnegie company would be absorbed. Time and again this suggestion was made, and on each occasion Morgan listened—then sent for Gary. The latter, seeing that this would be an excellent means of accomplishing what he desired for the Federal company, as by absorbing the Carnegie company it would not only secure a steel-making and steel-selling organization without equal at the time, but would also add to itself plants which could and would give battle for world trade to Britain and Germany, did all he could to induce the financier to accept the suggestions for the purchase of these properties. But each time Morgan, after careful consideration, decided not to act.

Then Carnegie resorted to coercion. Morgan was heavily interested in the National Tube Company, which was itself an amalgamation of a number of smaller tube companies. Carnegie made no tubes. His entrance into the business of manufacturing tubular products would undoubtedly have brought the National Tube Company face to face with more serious competition than it had ever encountered. And Carnegie threatened to build a tube mill. This action had two purposes. It was apparently intended to force Morgan to consider the purchase of the Carnegie properties, and it was also a retaliatory measure against the decision of the National Tube management to erect steel mills which would render the company independent of the Carnegie Steel Company for its supplies of raw material and would incidentally deprive Carnegie of a large customer. Carnegie announced his plans for the proposed tube mill publicly and bought a site for it at Conneaut. But although Morgan knew that the steel

maker was able and ready to carry out his project he gave no sign of having changed his mind.

Carnegie's next step was more important and serious. He threatened to build a railroad paralleling the Pennsylvania Railroad throughout its entire length, a project which, if carried through, would without question have materially damaged the earning power of the great railroad system and would have been a heavier blow to the Morgan interests than the erection of a tube mill. But again Morgan paid no attention. It is extremely doubtful if Carnegie, powerful as he was, could have seriously intended to attempt such an undertaking, and therein may have lain the reason for the banker's seeming indifference. On the other hand, those who knew Carnegie declared that he would have found means to build the suggested road, even as he had in the past done other things said to have been impossible.

That Carnegie had no desire to enter into a pitched battle with the powerful Morgan interests seems to be fairly well established by his next act. Coercion having failed, he again resorted to peaceful tactics and fired what, possibly, was his last shot. And here it might be interjected that, while the event that directly led up to the formation of the Steel Corporation has been narrated scores, probably hundreds of times, the part that Carnegie played therein has never, so far as I have been able to discover, been brought out.

Among the Carnegie partners was a young man, Charles M. Schwab, president of the Carnegie Steel Company. Schwab not only represented the top notch of efficiency as a steel maker, a salesman and an executive, but he had a veritable tongue of gold. To listen to him was to be converted to his views; he could talk the legs off the proverbial brass pot. And Carnegie saw that if the man lived who could convince Morgan to engineer a purchase of the Carnegie Steel Company that man was Charlie Schwab. Carnegie therefore decided to bring together the financier and the president

of the Carnegie Steel Company and to let loose on Morgan the flood of Schwab's eloquence.

On the night of December 12, 1900, Edward R. Simmons and Charles Stuart Smith, both close friends of Carnegie, gave a dinner to which Morgan was invited. And to Schwab was assigned the duty of making the speech of the evening. Ostensibly the dinner was merely a social affair with no ulterior motive, but in the light of subsequent events it may be considered certain that it was arranged at the suggestion of Carnegie, and that its purpose was the sale of his properties to Morgan.

Everything went off as planned. Schwab chose for his subject the steel company of the future. He played upon this theme as a harp to an attentive audience, not the least attentive of whom was the banker, and, while he never referred directly to the Carnegie company, he made it very clear that the concern which he described in glowing terms would of necessity own and control the Carnegie plants.

Schwab forecasted a future of wonderful brilliance for the steel industry. He drew a word picture of a company big enough to insure the greatest economies in the securing and distribution of its raw material, but highly specialized by departments, each and every plant confining its attention to one particular product so as to secure the highest degree of efficiency. He described such an organization as able to dominate the markets of the world and to set a pace that neither England nor Germany could follow. The ideal structure he painted was such a one as was well worthy the attention of the greatest of bankers, an industrial enterprise that even the great Morgan might well be proud to stand sponsor for.

And the youthful Carnegie president swept the financier off his feet and along with him in the flood of his oratory. The United States Steel Corporation was not actually incorporated for some months, as an

undertaking so immense naturally took a good deal of time to put through, but it was by that speech that the idea of a vast steel merger, sown in Morgan's mind by Gary, was quickened into life. In that half hour the United States Steel Corporation, to all intents and purposes, became an actual fact.



ORE TRAIN LEAVING CONNEAUT HARBOR, OHIO



DUQUESNE WORKS, CARNEGIE STEEL CO. BATTERY OF THE MOST MODERN FURNACES OF THE CARNEGIE STEEL COMPANY IN OPERATION

CHAPTER II

THE BIRTH OF THE BIG COMPANY.

A billion dollars!

The financial world, accustomed to big figures, gasped when the plans for the new corporation, with an authorized capitalization of \$1,100,000,000 in stock and \$304,000,000 in bonds, a total of \$1,404,000,000 were announced. Wall street had long been used to treat millions, with the dollar sign before them, as mere trifles, and even tens of millions were commonplace. Hundreds of millions commanded respect. But a billion, a thousand millions, that was merely a figure, something that could not be computed, that surpassed imagination; just as much smaller sums are mere rows of figures to most of us.

And, indeed, the mind cannot comprehend really what a billion means. Some concrete form of comparison is needed to give a faint idea of the immensity of the capital of the "Steel Trust." A king's ransom? It would have ransomed a thousand kings! The fabled wealth of Ormus and of Ind, of Croesus, of Montezuma, all these fade into insignificance when compared with this gigantic aggregate of money.

If the authorized capital of the United States Steel Corporation could be turned into solid gold it would weigh 2,330 tons, or over 5,200,000 pounds!

This gold would have a cubic content of 3,880 feet!

With it you could build a pillar six feet square and towering 108 feet in the air; or a Cleopatra's needle of virgin gold six feet square at its base and tapering to a point at a height of over 430 feet!

A train of fifty-eight railroad cars would be required for transporting the precious metal, with two big engines, one before and one behind, to move the train!

For storage room the gold would require a vault eight feet high, twenty feet wide and 24½ feet long—and there wouldn't be an inch of spare room!

Placed at one end of a scale the gold would need 30,000 men of average weight to balance it!

If the corporation's capital were coined into Five Dollar gold pieces they would pave a road 17 feet wide for more than 15½ miles!

Stacked one on the other these coins would reach a height of over twenty miles!

If this huge sum were converted into pure silver it would weigh 87,500 tons, with a cubic content of 268,000 feet!

This silver would form a needle six feet square at the base and piercing the skies to a height of 29,776 feet, or above the highest crest of the Hymalayas!

It would take 2,200 freight cars to load it, and about 55 powerful locomotives to pull these cars!

This \$1,404,000,000, changed into dollar bills, would measure 166,200 miles, forming a ribbon that would girdle the earth six times and leave two streamers each 8,000 miles long floating behind!

These bills would cover an area of 228,317,433 square feet!

An expert bank teller working eight hours a day, Sundays and holidays included, and counting one bill a second without rest, would take more than 133 years to finish. If he started to count on January 1, 1915, one of his descendants might count the last bill in the pile about the end of June, 2048!

If the corporation's capital were divided evenly it would give every man, woman and child in the United States about \$15.50!

The interest on this sum at 5% would keep some 35,000 American families in comparative comfort—without touching the capital!

The money represented by the big company's capitalization would buy the cotton crop of 1914, the larg-

est on record, at over 17c a lb, or some 2½ times the market price.

From the date of the Simmons dinner to that on which the plans for the new corporation were announced was a very short period. The birth of the corporation did not take long. Once convinced that a merger of a number of large companies making various steel products was practicable and desirable for the good of the industry and of the country—as well as for the pockets of the consolidators—Morgan and his associates lost no time in bringing it about. The dinner took place on December 12, 1900; the corporation was formally chartered on February 25 of the year following and began business as a corporate entity on April 1, 1901.

It is likely that Schwab himself did not foresee how far-reaching would be the effects of his speech. Morgan did not do things by halves. When the young steelmaker caught his attention and drew a picture of a company big enough to manufacture all lines of steel and to specialize on each one, powerful enough to enter and occupy foreign markets and rich enough to expand to meet the growing demand for the metal without danger of overstretching its resources, he painted with his words something which the banker thought it would be a proud thing to father. Morgan saw before him unlimited possibilities not for money making alone—for this was by no means the ruling passion of his being—but of creating an industry that should leave an indelible impress for good on industrial history, a business so great that its actions could not fail to force themselves upon the attention of the world and to command imitation on the part of other industries. A business, moreover, so powerful that it would not need to resort to the dubious practices of the old days to succeed.

For just as among individuals, trickery and deceit are the weapons of the weak, so the really strong industry

should and can be fair and open in its dealings not only with its customers but with its employees and its competitors, and these last must of necessity adopt the same course.

The great steel concern that Schwab discussed corresponded very closely to the company that Gary had long been urging Morgan to assist in creating by the expansion of the Federal Steel Co. Immediately after the dinner Morgan drew Schwab aside and the latter then went more fully into the subject of a vast steel merger than he had been able to in the confines of an after dinner oration. Finally the financier asked Schwab if he thought Carnegie would sell, and upon receiving an affirmative reply Morgan requested the other to find out definitely and inform him upon what terms. A few days later Schwab reported that Carnegie's price was \$303,450,000 in bonds and \$188,556,160 in stock of the suggested new company. After some consultation with Gary, Robert Bacon and others, Morgan accepted these terms.

The Nucleus of the Corporation.

As a nucleus of the proposed steel corporation, then, we have the Carnegie and the Federal companies. But Gary's plans had provided for the manufacture of a number of products made by neither of these two concerns, and Schwab, in his talk, had pictured an industrial organization that would turn out from its mills every kind of steel product, that would be able to supply its customers with everything made of the metal from a nail to a railroad car. Morgan was not a man of half measures. There was no need to make two bites at a cherry, even though it was a mighty big cherry. Having once decided to finance the formation of the new company he thought it might as well be comprehensive in its products, and so negotiations were immediately set on foot with the controlling interests in the leading concerns making wire, tubes, tin plate,

etc., with a view to bringing them all into the consolidation.

The Morgan interests had financed the organization of the National Tube Co., the principal figure in which was Edmund C. Converse, so the tube company naturally was taken in. The other concerns and interests which it was proposed to unify into the new corporation were the American Steel & Wire Co., the chief figures in which were the late John Warne Gates, Alfred Clifford, William Edenborn and others; the four companies forming the so-called Reid-Moore group, controlled by Daniel G. Reid and William H. Moore—namely the National Steel Co., American Tin Plate Co., American Sheet Steel Co. and American Steel Hoop Co.

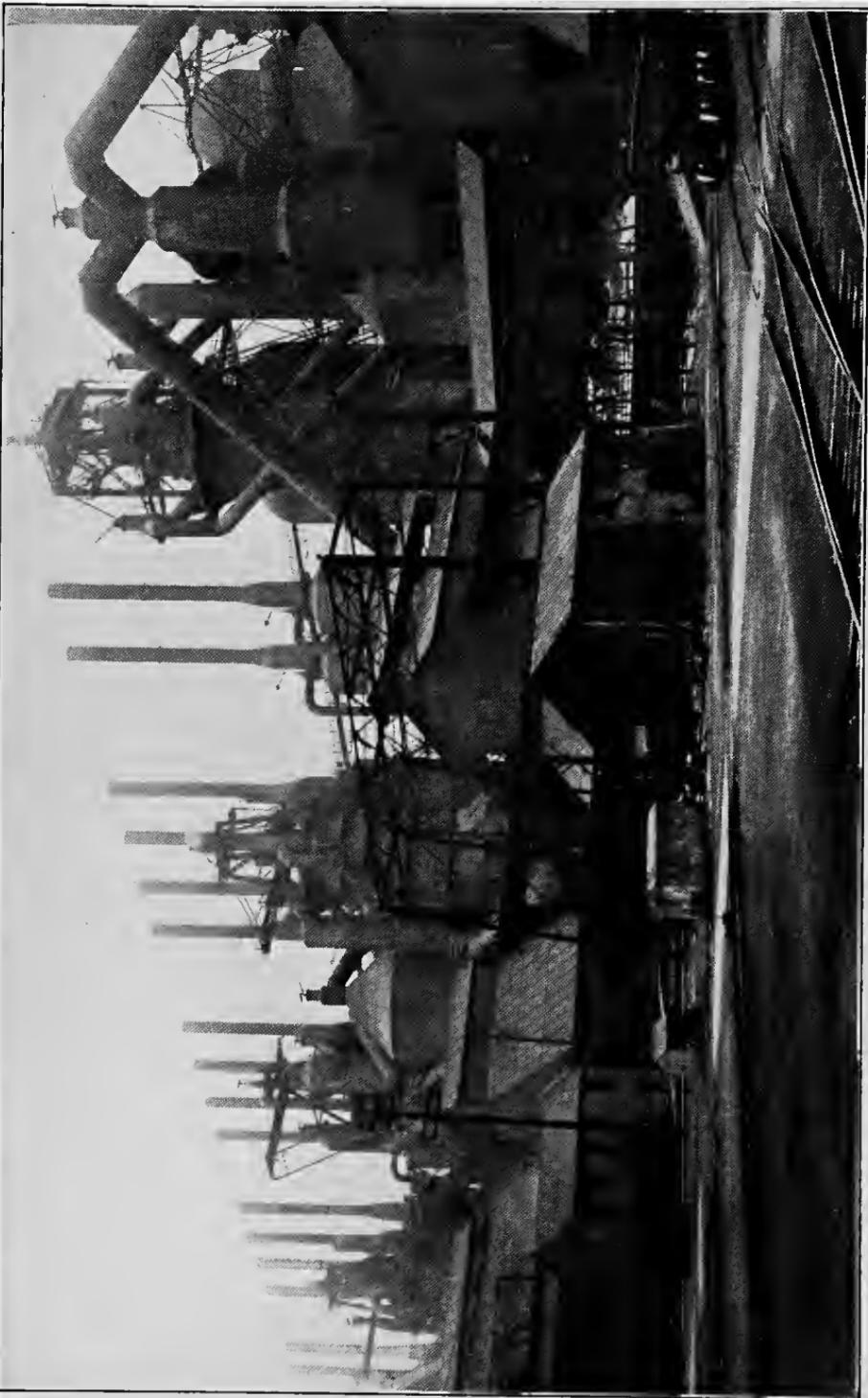
By the early part of February, 1901, the negotiations were concluded and the plans for the organization of the United States Steel Corporation were announced. They provided for the amalgamation of these eight companies, the smallest of which had a capitalization of \$33,000,000, and the largest over \$300,000,000. Before the plans were finally put through, however, two more units were added to the list, the Lake Superior Consolidated Iron Mines, dominated by the Rockefeller interests, and the American Bridge Co., at the head of which was Percival Roberts, Jr. The absorption of the Lake Superior Consolidated, with its vast ore holdings and steamship fleet, was deemed necessary to ensure the Steel Corporation an adequate ore reserve. The American Bridge Co., which secured most of its supplies of steel from the Carnegie company, seemed to fit naturally into the plans for the consolidation.

Thus there were ten large companies taken in, merged to form the United States Steel Corporation. They had an aggregate capital of \$867,550,394, as follows:

Company.	Common Stock.	Preferred Stock.	Bonds.
American Bridge Co.	\$30,527,800	\$30,527,800	.....
American Sheet Steel Co..	24,500,000	24,500,000	.....
American Steel Hoop Co..	19,000,000	14,000,000	.....
American Steel & Wire Co.	50,000,000	40,000,000	.....
American Tin Plate Co....	28,000,000	18,325,000	.....
Carnegie Steel Co.	160,000,000	.....	\$160,000,000
Federal Steel Co.	46,484,300	53,260,900	.....
Lake Superior Consolidated Iron Mines	29,424,594	.....	.....
National Steel Co.	32,000,000	27,000,000	.....
National Tube Co.	40,000,000	40,000,000	.....
Total	\$459,936,694	\$247,613,700	\$160,000,000

The American Bridge Co., as its name implies, was a fabricator of bridge material and structural steel generally. It was not a steel company in the strict sense. It obtained a large proportion of its supplies of steel from the Carnegie company and fabricated this material. It had a capacity of approximately 600,000 tons yearly. The company was incorporated in May, 1900, as a consolidation of a number of smaller concerns and at the time of its absorption into the Steel Corporation had a surplus of \$4,030,331. Holders of its preferred stock received \$110 in preferred stock of the new corporation for each \$100 of their holdings, while the common stockholders received \$105 in U. S. Steel common for each \$100 of their holdings.

Four companies, as has been stated, formed the "Reid-Moore" group. The American Tin Plate Co., was chartered in December, 1898. Like all the concerns forming this group it was considerably over-capitalized. Nevertheless its earnings in the first year of its existence were approximately \$3,600,000 or 20% on its preferred capital, and in 1900 they exceeded \$5,750,000, or about 32% on the preferred capital. At its formation it acquired 39 different plants, embracing 279 mills, manufacturing tin and terne plates. Its preferred stockholders received \$125 in U. S. Steel preferred stock for each \$100 of their holdings and its common stockholders \$120



ILLINOIS STEEL COMPANY BLAST FURNACES

in preferred and \$125 in common stock of the new corporation for each \$100 of their holdings.

The National Steel Co., another of the Reid-Moore concerns, was the maker of raw material for the other three members of the group. Its production was largely confined to semi-finished products and it had a capacity of about 1,700,000 tons of steel a year. It had some ore holding in the Mesaba Range as well as a twenty year contract for a one-sixth interest in the ore production of the Oliver Iron Mining Co. The company was chartered early in 1899 and in the first year of its existence earned approximately \$8,750,000, or over 32% on its preferred stock. Of this amount, however, \$3,617,000 was written off for depreciation. At the time it was merged into the Steel Corporation, it had surplus and undivided profits of \$6,910,995. Holders of both its common and preferred stocks for each \$100 of their holdings got \$125 in the corresponding stock of the new corporation.

The American Steel Hoop Co., third of the group, was formed a month or two later than the National Steel Co. It was a consolidation of nine concerns manufacturing chiefly bars, hoops, bands, cotton ties and skelp, and had an annual capacity of about 700,000 tons. Its earnings were not as large as those of the others of the group, its first nine months operations yielding a return at the annual rate of slightly under 7% on the preferred capitalization. Its accumulated surplus on April 1, 1901, was \$1,660,311. The two classes of its stock were exchanged at par for the same classes of U. S. Steel stock.

Last of the Reid-Moore companies to be organized was the American Sheet Steel Co., chartered in February, 1900. This company acquired 164 sheet mills, 19 puddling furnaces and a number of open-hearth furnaces and bar mills. It had a capacity of about half a million tons. Its earnings, from the time it began business to April 1, 1901, amounted to \$1,676,480, and its

surplus on the latter date was \$705,757. Its stock was exchanged for Steel Corporation securities on the same basis as those of the Steel Hoop Company.

The National Tube Co., organized in June, 1899, was a merger of 13 smaller concerns having an aggregate capacity of about 850,000 tons of steel wrought tubing. Its principal plants were located in the Pittsburg district. In the year 1900 the company reported net profits after depreciation of over \$14,600,000, or about 35% on its preferred capital stock. National Tube preferred stockholders exchanged their holdings at the rate of \$100 for \$125 of U. S. Steel preferred, while the junior stockholders received \$8.80 in preferred and \$125 in common stock of the new corporation for each \$100 they held.

The Federal Steel Co., second only in size and importance to the Carnegie Steel Co., was chartered late in 1898, as a merger of the Illinois Steel Co., Minnesota Iron Co., Lorain Steel Co., Elgin, Joliet & Eastern Railway Co. and the Johnson Co. of Pennsylvania. The steel companies it controlled brought to it some of the best equipped steel mills, manufacturing various products, in the country, as well as a number of ore vessels and a large interest in the Duluth & Iron Range R. R. Its earnings in 1899 were approximately \$9,100,000, or about 17% of its preferred stock and in 1900, \$11,722,000, or about 22%. Federal Steel preferred stockholders received new preferred stock at the rate of \$110 for each \$100, and the common stock was exchanged at the rate of \$100 of Federal common for \$4 of preferred and \$107.50 of the common stock of the U. S. Steel Corporation.

The Lake Superior Iron Mines, dominated by the Standard Oil interests, was formed in 1893. It was merely an ore company and had ore reserves, owned or leased, estimated at nearly 400,000,000 tons. The company also owned the Duluth, Missabe & Northern Railroad, and it was affiliated with the Bessemer Steamship

Co., afterwards purchased by the Steel Corporation. The earnings of the Lake Superior company were enormous, having been nearly 58% on its capital in 1900. For each \$100 of its stock—there was only one class—\$135 each of preferred and common stocks of the U. S. Steel Corporation were exchanged.

The American Steel & Wire Co., of New Jersey, was a consolidation effected in January, 1899, of the majority of the country's wire mills. It had a rod mill capacity of over 1,100,000 tons and a wire nail capacity of more than 10,000,000 kegs, or over 500,000 tons. It also owned extensive ore and coking coal properties. In the first year of its operation the Wire company earned nearly 19% on its common stock after an allowance of \$1,200,000 for depreciation, and in 1900 its earnings applicable to the common stock were \$4,202,129, or nearly 8½% on the issue. Its preferred stock was exchanged on a basis of \$117.50 U. S. Steel preferred for each \$100, and its common stock on the basis of \$102.50 of Steel common for each \$100 of Steel & Wire.

We come now to the largest and most important of the ten companies originally merged into the monster Steel Corporation—the Carnegie Steel Co., the great organization ruled by the Monarch of Steel and turning out from its furnaces and mills practically one-fifth of all the steel made in the United States; and, incidentally, pouring undreamed of wealth into the pockets of Carnegie and his associates. A company that realized profits in 1899 of nearly \$24,000,000 and in 1900 of approximately \$40,000,000!

The Carnegie Steel Co. was a formal merger of the Carnegie and Frick interests. By its absorption the new corporation secured possession of the greatest steel organization of its time, as well as of the important coke holdings of the H. C. Frick Coke Co.—owning about 40,000 acres of coking coal lands, 11,000 coke ovens and other property—a controlling interest in the Oliver Mining Co. with its large ore possessions, the

controlling interest in the Pittsburg, Bessemer & Lake Erie Railroad, not to mention a number of other concerns and interests of less importance.

Unlike most of the other merged companies, the Carnegie Steel Co. had all its steel making plants concentrated in the Pittsburg district. It was in this locality that Carnegie had built up his great business machine, and his fortune. He had never attempted to build elsewhere, with the exception of his threat to erect a tube plant at Conneaut. Carnegie believed in the future of Pittsburg. And he himself did more than anyone else to assure that future. Carnegie it was that had made Pittsburg the steel center of the universe. And his plants there, at the time they were taken over by the corporation, had an annual capacity of some 3,500,000 tons of steel ingots and over 3,000,000 tons of finished products.

When the Carnegie company was reorganized in March, 1900—at which time the merger with the Frick company took place—its capital was placed at \$160,000,000 in stock and a like amount in bonds. All the stock and all but 550,000 of the bonds were taken over by the organizers of the Steel Corporation and for these, as has been seen, a total of \$492,006,160 was paid, as follows: for \$159,450,000 Carnegie bonds an equal amount of bonds of the new company was exchanged; another \$144,000,000 new bonds was employed to take up \$96,000,000 of the Carnegie stock while \$98,277,120 Steel preferred and \$90,279,040 Steel common paid for the remaining \$64,000,000 Carnegie Steel stock.

In order to provide for the exchange of new stocks and bonds for the securities of the constituent companies the new organization, which it had been finally decided to name the United States Steel Corporation, was given an authorized capitalization of \$550,000,000 each in common and preferred stocks and \$304,000,000 in bonds, a total of \$1,404,000,000. To ensure sufficient working capital at the start a sum of \$25,000,000 was

put up in cash by the syndicate, headed by the Morgan interests, which had financed the transaction. This syndicate also turned over to the corporation \$174,000 in securities of the merged companies which had been acquired by means other than exchange, and expended some \$3,000,000 as syndicate expenses. For the cash, stock and its services the syndicate received 648,987 shares of preferred stock and 648,988 shares of common stock. Practically all the stockholders of the old companies, satisfied that with Morgan backing the new company its success was fairly well assured, took advantage of the exchange offer, with the result that, at the end of the first nine months of its existence less than 1% of the old securities were still held in the hands of the public and of the corporation's capital as authorized \$1,319,229,000 had been issued.

The steel producing equipment controlled by this vast aggregation of capital comprised 149 steel works of various kinds, having an annual capacity of 9,400,000 tons of crude and about 7,700,000 tons of finished steel; 78 blast furnaces with a pig iron capacity of 7,400,000 tons; over 50,000 acres of coking coal lands; over 1,000 miles of railroad and a fleet of 112 vessels engaged in traffic on the Great Lakes. Not to mention large areas of ore bearing property with uncounted millions of tons of developed and undeveloped ore as well as docks, natural gas and limestone properties, etc.

Just as the corporation's capital, wealth and resources had never before been approached by any industrial organization, so its board of directors surpassed in aggregate wealth that of any other company. The list of the men who guided the corporation's destinies included J. P. Morgan, John D. Rockefeller and a host of others whose gigantic fortunes were exceeded only by those of the two kings of finance named. The others were: Elbert H. Gary, H. H. Rogers, Charles M. Schwab, Robert Bacon, Edmund C. Converse, Francis H. Peabody, Percival Roberts, Jr., Charles Steele, William H.

Moore, Norman B. Ream, Peter A. B. Widener, James H. Reed, Henry Clay Frick, William Edenborn, Marshall Field, Daniel G. Reid, John D. Rockefeller, Jr., Alfred Clifford, Clement A. Griscom, William E. Dodge, Nathaniel Thayer and Abram S. Hewitt.

Their fortunes, if it were possible to add them together, would amount to a sum vastly greater even than the huge capital of the "Steel Trust."

Charles M. Schwab was chosen president of the corporation, Arthur F. Luke, treasurer, and Richard Trimble, secretary. Elbert H. Gary became chairman of the Executive Committee, and with him were Charles Steele, Percival Roberts and Edmund C. Converse. A Finance Committee was also appointed with Robert Bacon at its head, and H. H. Rogers, Norman B. Ream, Elbert H. Gary and P. A. B. Widener as the other members. The salaries of the president and of the chairman of the Executive Committee were placed at \$100,000 each.

Prophecies of the Pessimists.

It is hardly to be wondered at that many prophets declared the new company was foredoomed to failure. Its very size, they claimed, would render it unwieldy, and it would collapse of its own weight. And there was a matter of something like half a billion dollars of common stock represented by no tangible assets, in fact, pure water. It was questioned if profits could ever be paid on this.

How could Morgan ever have been induced to back so great and so impracticable an enterprise? Many asked this question, and found no satisfactory reply. Some thought the banker had over-reached himself at last, but the majority were convinced that the organization of the Steel Corporation was merely a prodigious stock jobbing scheme to put money into the pockets of Morgan and his associates—and that, as such, it would prove eminently successful. Few there were who had



COKE OVENS

faith in the "Steel Trust" as a practical business proposition.

But incredible as it may have seemed to those accustomed to the vagaries of high finance, the promoters of the United States Steel Corporation did not regard it as a mere venture in financial legerdemain. They had the greatest faith in it as a straightforward business enterprise. They believed in its future. And the reader of the history of the big company must judge for himself whether it has justified its organization, not only from an economic, but more particularly from a sociological standpoint.

Morgan, it has been said, considered the financing of the Steel Corporation the crowning achievement of his career. Was he mistaken? Or did he, in making possible this giant corporation, erect himself a monument more lasting than brass?

It has been admitted that a large part of the Steel Corporation's original capital was water. Just how much was water will never be decided. Herbert Knox Smith, Commissioner of Corporations under President Roosevelt, estimated that substantially half of the corporation's total issue of securities was not based on any tangible property assets. Other critics have gone further, while some have placed the amount of overcapitalization at a lower figure. However, Mr. Smith's figures, so far as they go, are probably approximately correct.

But does the value of tangible assets indicate actual value? Does the cost of erecting a factory or a business indicate the value of that business? Manhattan Island, if the familiar story be correct, was originally purchased for twenty-four dollars. A business that is losing money is seldom worth the investment put into it, and conversely a money making concern must be valued on its earning power. Many of the companies merged into the United States Steel Corporation were immensely profitable, and even though they themselves

may have been overcapitalized, their value to the new corporation and to their stockholders was greater than their capitalization.

Value of the Carnegie Co.

The actual plant value of the Carnegie Steel Co., to take one instance, has been placed at about \$75,000,000. That is, these plants could have been duplicated for that sum. But the organizers of the Steel Corporation bought not only the Carnegie plants; they purchased an organization that was at the same time the most efficient steel making and steel selling machine in the world, an organization that the best qualified witnesses have declared was worth not less than \$250,000,000. An organization, moreover, that had earned \$40,000,000 in a single year. And what was true in the case of the Carnegie company was, in part at least, applicable to most of the other concerns which went to make the United States Steel Corporation.

Further, in organizing the big company, there were many conflicting interests to be brought into harmony. It was necessary to secure control of various enterprises in order to obtain the rounded out organization aimed at by Gary, Schwab and the others. And each seller, naturally, was holding out for all he thought it possible to get. It was, therefore, a matter of bargaining and without doubt the result was that in more than one case the final price was well above the value of the thing purchased.

In this connection it is related that shortly after the corporation had been formed the old Iron Master and Morgan met on a steamship on their way to Europe and Carnegie in the course of conversation intimated that he considered he had driven a shrewd bargain with the corporation interests. To which the banker is said to have replied: "I would have paid another hundred million if you had asked it." The story, for which I will not vouch, concludes that Carnegie never forgave himself for his too modest demands.

"Blue Sky" Behind Common Stock.

The general consensus of opinion is that the corporation's bonds and preferred stock were both amply protected at the time of its organization, but that the junior stock had been left nothing but the "blue sky" behind it. Even admitting the justice of this claim—at the time in question—such a state of things no longer exists. Whatever water once permeated the capital of the United States Steel Corporation has been squeezed out. Year by year the directors have voted large sums out of earnings for the building of new plants, the extension of old ones, until approximately \$500,000,000 has been expended in this manner, thus providing adequate protection for the common stock and putting the company today beyond reach of criticism on the charge of overcapitalization.

When the corporation began its existence the plants of its subsidiary companies, as we have seen, had a capacity of over 9,000,000 tons of steel, while its furnace capacity was considerably less. The corporation was compelled to purchase a large proportion of its pig iron requirements in the open market. Today its plants are capable, working full, of producing nearly 20,000,000 tons of steel ingots and nearly all the pig iron it needs. In other words, its steel capacity has been doubled and its resources for making its own raw material more than doubled. And practically all this gain in production has been attained by devoting profits to additions and expansion with the object of putting actual plant value behind every dollar of stock issued.

Today the directors of the Steel Corporation are satisfied that its entire capital is amply protected by assets. Evidence of this is found in the fact that the policy of using profits for building new mills and furnaces, or to acquire additional property, has been abandoned and it is planned to finance future expansion by the issuance of bonds, which will permit stockholders to

share more liberally in profits than they have in the past.

We have seen how the Steel Corporation was formed as a consolidation of ten of the leading steel producing concerns of the United States, with a combined capacity of very nearly two-thirds of the country's total possible output. So great an operation cannot be considered merely as a matter of finance. The biggest of trusts must of necessity contain enormous potentialities affecting the general welfare of industry and of the country and its organizers and managers, in consequence, cannot resent any fairminded investigation into the use it has made of its powers. Has the Steel Corporation's existence been prejudicial to the interests of its competitors, its customers, its employees, or through these, of the general public? These questions will be treated in more or less detail in the course of this history, but it might not be out of place to point out a few salient facts on the subject at this point.

Since the Steel Corporation began its existence a number of new steel companies have sprung into being, while the older so-called independents have greatly increased their output. While the corporation has added possibly 7,000,000 tons to its capacity, its competitors have added a still larger amount, so that the big company at present controls less than half the finished steel production of the United States.

I have been unable, after painstaking investigation, to find any evidence of the Steel Corporation's having at any time used its immense wealth to undersell a competitor, large or small, with the purpose of driving it out of business, while I have discovered more than one instance where it has assisted competitors. A company, especially one whose very size exposes it to envy and attack, could not fail to earn the enmity of its competitors if its methods were not always square and above suspicion, and it is a noteworthy fact that the

"Steel Trust's" competitors have time and again declared that they have no cause of complaint against it.

That this attitude on the part of the independent steel men was inspired solely by the fear that criticism levelled against the big corporation would involve a trade war directed against the critic and his consequent ruin has been suggested in some quarters. This is a poor compliment to the heads of some of the country's leading industries and no one who knows men like Charles M. Schwab, John A. Topping, James A. Campbell, Willis King and the other big "independents" would consider the charge for an instant.

How has the customer, the steel consumer, fared? The corporation has always been slow to advance prices and equally slow to lower them. It has usually acted to prevent prices reaching an abnormally high level in boom times, when overwhelming demand had placed the market in control of the seller of steel, by setting a maximum quotation at what it considered a fair profit level, and has thus protected the customer whose urgent need of steel at a particular time might have forced him to buy at a figure which would have been unprofitable for him. Such a course was pursued no later than 1912-1913 when the corporation fixed \$1.40 per 100 lbs. as its price for bars and accepted all business offered at this price, although it was possible to obtain much more, and its competitors were actually getting from \$2 to \$10 a ton higher as a premium for quick or "preferred" delivery. The corporation refused to give such preferment. "First come, first served" it said, in effect.

And by endeavoring to hold prices in periods of depression it has afforded protection to customers who had made big purchases at top prices and who would have suffered heavy losses if their competitors, coming into the market later, could have bought their supplies of steel at lower quotations than they had. I have asked one big steel consumer after another—not all

customers of the Steel Corporation—what he thought would be the effect of the disintegration of the big company, and have invariably received the reply that it would be the worst thing that could possibly happen for the interest of the consumer.

Has the public, which always pays the bill in a long run, been injured? In the fourteen years that have elapsed since the Steel Corporation began to operate the tendency of steel prices, as compared with those of other commodities, has been almost constantly downward. There is no question that quality has advanced.

Nor has the employee been lost sight of. It is admitted by all familiar with the subject that the Steel Corporation has been the prime factor in the gradual advance of steel workers' wages that has been witnessed since the opening of the present century. On several occasions the corporation has increased wages and always without solicitation from the men themselves. It has refused to reduce wages in times of stress and the worker has always shared in the profits of "boom" times. And what is more important, it has spent immense sums of money in sanitation and other methods of bettering the working man's lot, has helped him to save and invest his money, offering a premium for doing so, and has set an example in industry generally that has done more for the cause of common labor than has been accomplished even by the labor unions.

Does it seem absurd to accuse the management of the corporation of socialistic leanings? Among the 150,000 stockholders of the big company nearly one-third are men who work in its furnaces, mines, mills or offices, and these have become stockholders under the plan that permits employes to acquire stock on the instalment plan and offers a premium as an inducement to hold it. I question whether the history of the industrial world contains such another instance of a step toward ownership of the product of labor by labor itself, toward the highest and best socialism.



STRAIGHTENING PIPE

CHAPTER III

EARLY HISTORY. 1901-1907.

ECNOMY brought about by integration and increased efficiency, and the development of a permanent and well cultivated export market for American made steel: these, briefly, were the objects for which, its organizers claimed, the United States Steel Corporation was formed.

Hence it is but natural that the corporation's early history should concern itself chiefly with the attainment of these results, that it should be a narrative of the steps taken to co-ordinate and harmonize the various units brought together in the new Colossus of Industry, of the work that had to be accomplished, the difficulties that had to be overcome to fulfill its *raison d'être* and to bring it to the place it now occupies as the most important business enterprise in the world.

For it must not be supposed that the mere merging of a number of corporations of different sizes and degrees of importance by the acquisition of their securities meant that the consolidated company was organized in the true sense. Indeed, the financial organization was the smallest part of the work to be done. As we have seen, the financial transaction that brought together the ten large steel companies forming the United States Steel Corporation was carried through within a few months and with comparatively little effort. Morgan waved his magic wand, lent his power and his name, and the thing was virtually done. But what might be called the physical organization was a bigger task, and it took years to accomplish. And it would not be too much to say that the success of this physical organiza-

tion has been the measure of the success of the Steel Corporation.

Of all the dangers that beset the path of the new corporation the greatest was the fact that it was not an operating company, with so many scattered plants under one central management, but a holding company controlling by stock ownership a number of large industrial parts which had previously been controlled by various conflicting interests and each of which continued to operate necessarily under a separate management.

The corollary of such a state of affairs was that the management of each constituent company troubled itself solely about the success of its own particular unit and took no interest in the success of the other subsidiaries or of the corporation as a whole. And the continuance of such a condition would have made impossible the attainment of the ends for which the Steel Corporation was formed.

To illustrate: The Carnegie Steel Co. and the Illinois Steel Co., a subsidiary of the Federal Steel Co., had widely separated plants, and, because of the important item of freight rates, sold for the most part in different territories. But the two companies competed in a middle ground and each had succeeded in encroaching on the other's territory in some instances, had attached to itself certain customers therein. To retain these customers each company was compelled to sell in a locality adjacent to the other's mill at a price the same as its competitor was willing to offer. The Carnegie company, for instance, might have achieved the custom of a railroad whose Eastern terminus was Chicago. To supply the orders of this road it would have to pay freight tariffs from its mills near Pittsburg and deliver the goods to the road at Chicago at the same quotation the Illinois company was making for deliveries from its mills in the very suburbs of Chicago. It is extremely doubtful if such a situation was really advantageous to either company in the long run. It is

certain that its continuance would have been distinctly disadvantageous to the corporation that owned the stock of both concerns; it simply meant that the corporation would have to pay freight for carrying steel hundreds of miles when it was able to deliver it from a mill practically at the point of delivery.

The officers of each company were naturally unwilling to hand over custom they had built up by their efforts to a concern long regarded as a competitor. Even from the standpoint of the then existing conditions each must have felt that it was his job to make a good showing for the company he managed; he had no concern elsewhere. But, for the good of the whole organization, it was absolutely necessary that these officers should be brought to realize that they were working first of all for the United States Steel Corporation, that intercompany jealousies must be buried for the common good and the interests of the party made subservient to the welfare of the state. And the way to do this was to make the interests of the corporation, the controlled company and the individual worker identical.

Andrew Carnegie had built up the greatest steel company of its time by appealing to the loyalty of his men through self interest. Like Napoleon's soldiers, each man under him carried a potential Marshal's baton in his knapsack. The Napoleon of Steel held dangling before the eyes of his subordinates the hope of a partnership in the great Carnegie company as a reward for meritorious service, and most of his later partners became so in just this way. And the scheme worked out by the corporation's management to bring about the desired harmony, to assure loyalty to the United States Steel Corporation first and last, was modelled to some extent on Carnegie's method. It became known as the Stock Subscription and Profit Sharing Plan.

Before going into the details of the plan an example of its effects may be illuminating. Journeying over

the corporation's plants and mines I was impressed by this very spirit of loyalty and co-operation on the part of officers and workers alike, and remarked it to William A. McGonagle, president of the Duluth, Missabe & Northern Railroad. And Mr. McGonagle related the following instance of this spirit of co-operation:

"When we were planning the big ore concentrator at Coleraine the engineers and other officers of the various companies concerned were called together in consultation and certain differences of opinion arose regarding the plans, each of the men present urging changes which he thought would be of benefit to the company he represented. While the discussion was at its height somebody rose and said, 'Gentlemen, it is not a question of what is best for the Duluth, Missabe & Northern, the Oliver Iron Mining Co. or any other company; the whole question is, what is best for the interests of the United States Steel Corporation?' That settled it. All differences were smoothed out and a harmonious plan quickly agreed on."

This result was due to the plan referred to which was devised to give each employee the stimulus of personal ownership, an incentive not confined, as it had been formerly, to a few individuals, but distributed throughout the organization. The plan as finally worked out and put into operation was designed to accomplish three main objects: first, to interest employees in the Steel Corporation as a whole and not merely in the operations of the subsidiary for which they worked; second, to give them an incentive to do everything possible to reduce expenses and correspondingly increase profits; third, to offer them an inducement to stay with the corporation and identify themselves with it.

All employees of the corporation were entitled to avail themselves of the benefits of the first, or stock subscription, part of the plan. Each year the directors allotted a certain amount of stock to be offered to employees at a price slightly below the prevailing market

quotation, with the privilege of payment on the instalment plan in small monthly amounts. In addition to whatever dividends were declared on the stock so purchased, stockholding employees remaining with the corporation for five years were entitled to a bonus of \$5 a year on each share of preferred and \$3.50 a year on each share of common stock held. Thus not only were the interests of employer and employed made the same but the worker was enabled to make a profitable investment on the instalment plan, below the market level, besides receiving a handsome bonus on his purchase. In the first few years of the operation of the plan only preferred stock was offered, but the appreciation which the plan received led the management to offer both issues in more recent years, and in nearly every case the amount allotted has been liberally oversubscribed. In the twelve years since the first offering of stock was made (there was none in 1915, the unsatisfactory condition of the steel trade in the later part of 1914 rendering it inadvisable), a total of 505,957 shares have been subscribed for under the plan, an average of 42,163 a year. The average number of employees subscribing each year was 23,527. In 1914 the largest subscriptions were recorded, 46,498 employees taking over 90,600 shares of stock.

In December, 1914, there were 42,300 employees interested in the plan, that is, that number were either paying for stock or drawing bonuses under the five years clause. As it is likely that there are many employees holding stock which they acquired in the early years of the plan's operation it would be fairly safe to place the number of the big company's employees who, as stockholders, are interested in its welfare, at 50,000 in round figures. It has cost the corporation to maintain the plan since its inception approximately \$800,000, but this expense has been more than offset by increased efficiency, loyalty and co-operation.

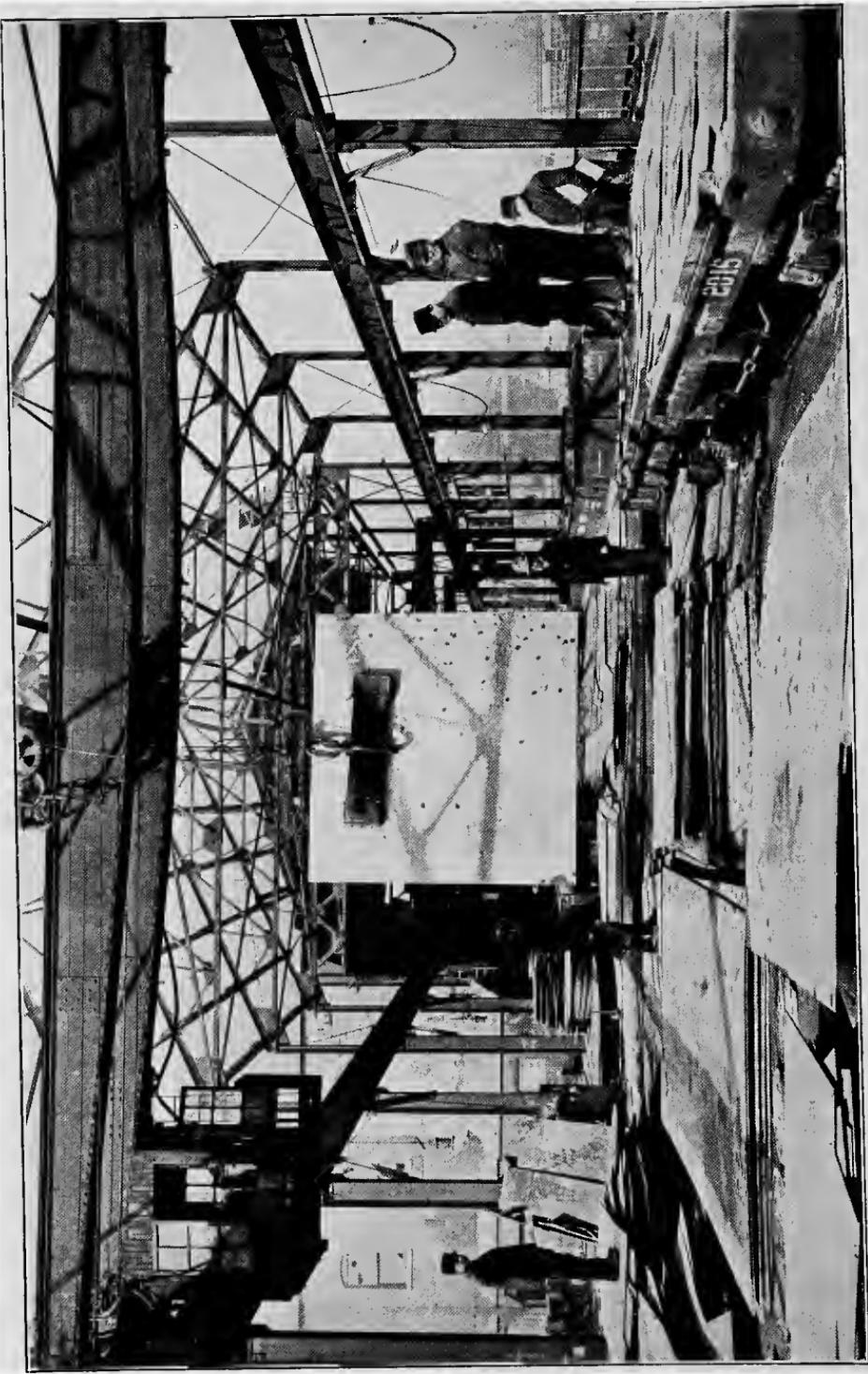
Only "the men who occupy official and semi-official

positions and who are engaged in directing and managing the affairs of the corporation and of its several subsidiary companies" were concerned in the profit sharing portion of the plan. This was largely an adaptation of Carnegie's method of rewarding his assistants for good service with the difference that it held out no allure of return for effort selfishly directed, but only that done for the good of the entire organization. It was a yearly distribution to the men above described of a small percentage of the profits above \$80,000,000, part of the bonus being paid in cash and part in stock of the corporation. At the time of the promulgation of the plan it was made plain that there would be no increases in salaries of officials. All additions to salary would come through these bonuses, and in basing them on the profits of the corporation and not of the separate subsidiary companies a powerful motive for loyal and harmonious effort for the good of the corporation was created.

Why did not the laborer share in this bonus distribution? It would have been impossible to make anything like an equitable distribution among the employees of every class, especially in view of the fluctuating character of a large mass of the labor employed in the industry. But the worker with his hands did share in profits in a more definite way. His wage was increased time and again and he received the benefits of these increases whether profits were large or small. And in the stock subscription part of the plan, with its attached automatic bonus, he had an equal opportunity with the men above him in authority.

But long before the Stock Subscription-Profit Sharing Plan was perfected steps had been taken to co-ordinate the work of the corporation and to bring about economies. First of these was the institution of a system of comparative cost sheets, immediately after the corporation began its existence.

The earning of profits for stockholders was the first



ELECTRIC LIFTER AT WORK

object of the big company, as it is in every business, and its formation had been undertaken largely with the idea that the magnitude of its operations would make greater economies possible, with a gain rather than a sacrifice of efficiency and quality. In the old steel days the calculation of costs had been more or less haphazard, at least in most instances. Too often the entire operating expense of steel making, from mining to the turning out of the finished product, had been "lumped" at the end of the year, and there was no means of arriving at the knowledge of just where profits, if there were any, were made, while if they were non-existent or unsatisfactory it was equally out of the question to fix the blame of any one department. Moreover, such secrets of economy as were discovered by those in charge of a furnace or mill were rigidly guarded as giving an advantage over competitors; all of which did not contribute to a general high average of efficiency and economy.

The corporation's management first set to work to ascertain the exact cost of running each and every mine, furnace or other department, the costs being tabulated for the information of the whole organization. The cost tables were made up in the most minute detail, the blast furnace cost sheets alone containing over 8,000 different items, and by their aid the several department superintendents could see at a glance what item in their operations was below the average, was too costly, and could take the necessary steps to remedy matters. These tables also created a spirit of emulation, of friendly rivalry, between the various departmental units, which alone was a potent incentive towards economy.

So immediate and so marked was the result of this system of cost checking that, according to Charles M. Schwab, a saving of \$4,000,000 was effected in the blast furnace department alone in the first year of the corporation's existence!

This history does not pretend to be a technical trea-

tise on the manufacture of steel, hence details of the many ways and means adopted by the corporation to achieve economy would be superfluous. The corporation's method of distributing the ore from the Great Lake region to its various plants, however, is particularly worthy of mention as it is a system that could only be employed by a very large concern, such as the corporation, and therefore serves to bear out the claim of the organizers of the big company that immense operations were necessary for the manufacture of steel at the lowest cost and highest efficiency.

Within a few miles of the celebrated Hull-Rust mine, the largest of the great open pit ore deposits of Northern Minnesota, lies the little town of Hibbing. At this town, which is situated on the line of the Duluth, Missabe & Northern Railroad, the corporation maintains a chemical laboratory well equipped for the analyzing of iron ore, and as each car of ore passes through Hibbing on its way to the docks a small sample is taken out and an immediate analysis made.

Nor far from the docks are the extensive yards of the D., M. & N., at Proctor, two miles long, with 55 miles of track and capable of accommodating 4,000 cars. About 2,500 cars have been handled in these yards in one day and in one season, that of 1907, some 14,000,000 tons of ore passed through them en route to the hungry furnaces of the different constituent companies of the corporation.

Before the trains reach Proctor the chemical content of every car has been ascertained at Hibbing, and the results are telegraphed on, so that the cars composing the train can be distributed on the sidings in accordance with the classification of their contents as shown by the chemical tests. Thus, if any company wants a certain grade or mixture of grades of ore, a trainload of that grade or grades is made up at Proctor and sent to the docks for transfer to that company. This means that each furnace gets exactly the kind of ore it needs.

to fill its orders; it means better and more uniform quality in the finished product. It also means a saving to the corporation of several hundreds of thousands of dollars yearly. And this method of assorting and classifying ores would be impossible in a small organization.

Not least among the economies following in the wake of the corporation's organization were the conservation effected and additional profits earned by manufacturing into merchantable products what had formerly been waste. The manufacture of the so-called by-products of the steel industry had been practiced in Germany for many years, and to a limited extent in this country as well. But to get the best results not only was a considerable outlay for new plant equipment required, but the services of a corps of trained and experienced chemists had to be engaged. And this meant an expense that, especially as the whole by-product idea was in somewhat of an experimental stage, companies even of moderate size as steel companies go hesitated to undertake it. With the corporation's vast resources, many subsidiaries and large output the expense of investigating and experimenting was spread out so as to be hardly felt, a careful study of the subject was made and plants were erected. This has borne fruit not alone in increasing profits for the corporation and its stockholders but in blazing a path for the steel trade of the United States as a whole (all the larger steel companies have by-product plants to-day), and finally in effecting an important conservation of the natural resources of the country.

Coke, the fuel used to make steel, is made, as is probably universally known, from coal. In the old days of the trade, and to a great extent still, the coal was burned in big brick ovens with open tops, known as beehive ovens, which produced about 60 tons of coke from 100 tons of coal and blew out in smoke into the air the oils and gas contained in the coal. In the modern by-

product coke ovens about 80 tons of coke are obtained from 100 tons of coal, a gain of 25 per cent. Nor is this saving all. The gases, instead of being blown out into the air and burned, are conducted through pipes to an intricate apparatus where coal tar, ammonium sulphate, a valuable fertilizing agent, ammonia and benzol, practically the same as gasoline, as well as other minor products, are extracted, and the gas itself is made available for use in motor engines or in illuminating. More than one large city today lights its streets with the gas from by-product coke plants.

As it takes over a ton of coke to make a ton of steel it is obvious that the saving of 25 per cent. in the coke yield from coke is an important item to a corporation that produces from ten to fourteen millions of tons of steel a year. And it means just that saving of the natural resources of the country in accomplishing the same result. The profits from the by-products are also material, how much so may be imagined from the fact that the patentees of one process are usually willing to build a by-product plant in connection with a steel works at a cost of several millions of dollars and to take their pay for it from the profits on the by-products alone, handing over the plant itself at the end of twenty years. "You give us the coal and we'll give you the coke—and in twenty years the plant is yours," they say to the steel maker. Needless to say the Steel Corporation erects its own plants and derives the full profits therefrom.

Another economy of importance in its saving of both labor and material is found in the generation, from what were once the waste gases of the blast furnace operation, of electric power for running the entire steel mill.

A very important by-product of the steel industry is portland cement. This is made from blast furnace slag, not only a waste previously, but a nuisance, as it accumulated and had to be freighted away from the mills and "dumped." The Illinois Steel Co. had cement

plants at South Chicago for years before the corporation was formed, but the big company extended the manufacture of cement by the erection of new plants, notably the one at Buffington, Indiana, and today its plants have a capacity of some 27,000 barrels of cement daily, worth, say, a little over a dollar a barrel.

Another new by-product, made from open-hearth slag, is a phosphate fertilizer which has only recently been put on the market. Large quantities of phosphate for fertilizer have been imported in the past and it is hoped by the introduction of this new product to do away, in part, with the necessity for importations.

Greater earnings for the corporation, larger profits for its stockholders, are represented by the extension of the manufacture of these by-products. But, beyond this, the cultivation of this part of the industry means an appreciable reduction in the cost of manufacturing steel, and consequently lower prices to the consumer and the possibility of higher wages to the worker, as well as the elimination of waste and the conservation of the natural resources of a continent.

Besides integration and the achievement of economies the early history of the United States Steel Corporation is largely a narrative of expansion, the building of new plants and the acquisition of other companies. First of these acquisitions was the purchase, consummated about a month after the corporation was organized, of the Bessemer Steamship Co., a Rockefeller concern engaged in traffic on the Great Lakes and which had been closely affiliated with the Lake Superior Iron Mines. This company had a fleet of 56 vessels (included in the number of vessels given as taken over by the corporation in a previous chapter). The new organization paid \$8,500,000 for the stock of the company, or about \$150,000 for each vessel of the fleet.

In the same year control of the Shelby Steel Tube Co., a New Jersey company owning the principal basic patents for the manufacture of seamless tubes, and

having an outstanding capital of \$5,000,000 of preferred and \$8,150,000 of common stock, was secured, the exchange of securities being made on the basis of one share of U. S. Steel preferred for 2 2-3 shares of Shelby preferred, and one share of Steel common for four shares of Shelby common stock. Practically all the stock of the Shelby company—\$4,776,100 preferred and \$8,018,000 common—was acquired, giving the corporation a substantial controlling interest.

In 1901 also the corporation purchased by exchange of stock one-sixth interest in the Oliver Iron Mining Co. and the Pittsburg Steamship Co. The Carnegie Steel Co. already owned the other five-sixths of the securities of both these concerns and this gave the corporation complete ownership.

In December, 1902, an important deal for the absorption of the Union Steel Co. was consummated. This company was a merger, effected only a month or so previous to its absorption by the Steel Corporation, of the Union Steel Co., a \$1,000,000 concern owning a large plant for the manufacture of wire rods, wire and nails at Donora, Pa., and the Sharon Steel Co., a \$6,000,000 company making a similar line of products and located at Sharon, Pa. The merged company had an authorized capitalization of \$50,000,000 and a capacity of 750,000 tons of pig iron and 850,000 tons of ingots yearly. The purchase was carried out on the following basis: The Steel Corporation guaranteed an issue of bonds on the Union-Sharon properties amounting to \$45,000,000, of which \$29,113,500 were issued to pay for the properties, \$8,512,500 were purchased by the interests controlling the properties, \$3,500,000 were reserved to retire bonds outstanding on the property of the Sharon company and the balance was reserved to provide for future construction and improvements. The actual cost to the corporation was fixed at \$30,860,501, as follows: bonds guaranteed and issued, \$29,113,500; underlying bonds assumed, \$3,591,000; cash \$497,990;

total \$33,202,490; less liquid assets taken over with the properties, \$2,341,989; net cost \$30,860,501.

By this transaction the corporation acquired five blast and 24 open-hearth furnaces, 2 blooming and slabbing mills, 4 rod mills, 2 wire and nail mills, one skelp works, one tube works, one plate mill, one tin plate plant, one sheet plant, a by-product coke plant of 212 ovens, two modern ore steamers, 4,740 acres of coking coal, 1,524 acres of steam coal, and the ownership of two mines and leases on another two in the Mesabi Range with an estimated ore deposit of 40,000,000 tons.

The absorbtion of this entirely solvent and "going" competitor has been criticized on the allegation that its only purpose could have been to strengthen the larger company's supposed control of the industry, and to eliminate competition. The reasons for the purchase, as given by Judge Gary, were twofold. The Union Steel Co., he said, owned blast and open-hearth furnaces the securing of which obviated the necessity of the corporation building others in the same territory, which it needed, and its wire mill was particularly well located for export business, a prime consideration with the Steel Corporation. Perhaps a more cogent reason was to be found in the desire of the corporation's management to center the interests of H. C. Frick in the corporation. Mr. Frick was heavily interested in the Union-Sharon concern and on this account, although a director of the corporation, he did not take a prominent part in its affairs. His experience and ability made his full co-operation in the directorship of the big company desirable and this had a great deal to do with the purchase.

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Seventeen months later, in May, 1904, the Clairton Steel Co., which operated three blast and 50 open-hearth furnaces, a rolling mill, billet mill and blooming mill at Clairton, Pa., was absorbed. The company, controlled by the Crucible Steel Co., was then in the hands of a receiver and its stock was acquired by the payment to the owners of \$1,000,000 in U. S. Steel

bonds (bought in the open market and costing the corporation \$813,850), and the guaranteeing of bonds to the amount of \$10,230,000 outstanding against the Clairton company and its subsidiaries. The purchase also brought to the corporation a half interest in one ore mine and a lease of another in the Mesabi Range, about 20,000 acres of mineral lands in the Marquette Range, 2,644 acres of coking coal lands, and working assets of nearly \$3,000,000.

Smaller acquisitions by the corporation in the early years of its existence included the Troy Steel Products Co., which owned works at Troy, N. Y., with a capacity of about 200,000 tons of slabs and skelp a year, and the Trenton Iron Co., operating a rod mill with a capacity of some 18,000 tons. The Troy company was bought in 1902 and operated a very short time, it having proved unprofitable.

Hardly had the United States Steel Corporation commenced operations than the directors found themselves faced with the necessity of raising additional working capital. The \$25,000,000 cash provided by the underwriting syndicate proved insufficient for the needs of the giant industry. Obligations entered into by the constituent companies before the merger, it was discovered, called for the expenditure of approximately \$15,000,000, and fully \$10,000,000 was needed to refund what were classified as "purchase money obligations." It was also thought desirable that expenditures should be made for improvements and additions which, it was estimated, would increase the big company's earning power at least \$10,000,000 a year. Furthermore it was deemed advisable to add from \$10,000,000 to \$15,000,000 to the corporation's fluid assets to provide for further expansion and to strengthen reserves, as it was obvious that if the corporation were to need ready cash in a time of stress the amount wanted would not be a matter of a million or so but of many millions and it would be impossible to obtain a very large sum at such a time

except at a great loss. By increasing fluid assets the probability of the need for borrowing would be minimized.

The issuance of \$50,000,000 new preferred stock or second mortgage bonds was discussed at length, but these courses were not favored as either, aside from the initial expense in commissions to underwriters, would have increased fixed charges against earnings—a stock issue permanently and a bond issue for the term of its life—while an increase in capital in either of these two ways so shortly after the formation of the corporation would almost certainly have attracted unfavorable comment and might have severely affected the value of their holdings to owners of the stock of the corporation.

Eventually what was known as the Bond Conversion Plan was adopted and promulgated. It provided for the issuance of \$250,000,000 new second mortgage bonds and the redemption of \$200,000,000 of the outstanding preferred stock, holders of the stock being given the opportunity to subscribe for the bonds to the extent of 50 per cent. of their holdings, 40 per cent. through deposits of stock and 10 per cent. in cash. A syndicate, headed by the Morgan firm, was formed which guaranteed to turn in not less than \$80,000,000 in stock and \$20,000,000 in cash in exchange for \$100,000,000 of the bonds to be issued. For its work the syndicate was to receive 4 per cent. on the total value of the bonds actually issued under the plan, the house of Morgan receiving one-fifth of the commission, or four-fifths of one per cent.

An actual, though not immediate, money saving, it was pointed out, would be effected under the plan. Although the commissions to be paid the syndicate, \$10,000,000, would be larger than in the case of either of the two other ways suggested for raising the new capital required, the net saving in annual interest charges would be \$1,500,000, which would not only re-

fund the commission in a comparatively short time but would be more than sufficient to meet sinking fund requirements for paying off the entire second mortgage issue when it became due, or in sixty years. The actual gain in working capital, should the plan prove a success, would be \$40,000,000.

(Redeeming \$200,000,000 of 7 per cent. preferred stock would save dividend charges of \$14,000,000 yearly, for which would be substituted a charge of 5 per cent. on \$250,000,000 bonds, or \$12,500,000. The amount required for the sinking fund would be slightly over \$1,000,000 or less than the net annual saving. And a permanent capital reduction would be effected at the end of sixty years.)

No other action of the corporation's management, it would be safe to say, has met with such widespread disapproval as did the bond conversion plan, much of the criticism coming from financial experts who questioned the propriety of increasing the bonded debt of the company to so great an extent with so small an actual gain in working capital or resources. It was characterized as dangerous financing and it is doubtful if all the corporation's directors were themselves in full accord with the operation. At a meeting held on May 19, 1902, the plan was submitted to a vote of the stockholders and here considerable opposition developed which led later to the bringing of four suits to prevent the consummation of the plan. One of these suits which attracted a good deal of attention was brought by J. Aspinwall Hodge, a New York lawyer. But the Court of Errors and Appeals of New Jersey eventually dismissed these suits and the offer to exchange stock for the bonds—delayed by the suits—was finally made to stockholders in the Spring of 1903.

In view of the fact that its avowed object was the raising of \$40,000,000 new cash capital, said to be necessary, the plan can hardly be said to have been an eminent success. Exclusive of the syndicate operations

only \$45,200,000 of preferred stock was exchanged by stockholders for the bonds and the cash subscriptions for the issue from the same source amounted to the insignificant sum of \$12,200. The syndicate, at its dissolution, turned in a total of \$150,000,000 in preferred stock and \$20,000,000 in cash (this of course included the \$45,200,000 stock and \$12,200 cash of the outside stockholders), a total of \$170,000,000, and instead of the desired \$40,000,000, the actual cash gain to the corporation from the transaction was \$20,000,000, less a syndicate commission of \$6,800,000, or \$13,200,000 net.

As the corporation has been able to meet its full preferred dividend requirements since its formation, however, it is obvious that as matters turned out it has saved \$2,000,000 a year in interest charges, or in the twelve years since elapsed \$24,000,000, nearly four times the commission paid the syndicate. The yearly saving is also approximately double the \$1,010,000 which the sinking fund calls for, so that the net gain to stockholders from the reduction of the preferred capital is \$990,000 a year. Looking into the distant future the saving after the bonds are paid off, in 48 years, will be nearly \$9,500,000 annually.

One of the criticisms hurled at the plan was that its real object was to enable the syndicate, and especially the banking house of J. P. Morgan & Co., to make a profit at the expense of the stockholders. The facts were that the syndicate took a big risk of the bonds selling at less than par after issuance, which they did, and while it is impossible to ascertain the exact gains or losses incurred, the best opinions of financial authorities is that Mr. Morgan and his associates in the syndicate actually suffered a loss of something like \$8,000,000 from the deal.

It was perhaps natural that the management of the Steel Corporation, in its early existence, should have been more or less divided against itself. This danger was one of the factors urged by its critics against the

possibility of its success. Among its directors were Phipps, Frick and Schwab, old Carnegie partners, and firm believers in the Iron Master's policy of getting your competitor before he got you. Gary was the dominant figure in another faction that had the foresight to perceive that a new day was dawning in industry, an era of co-operation between manufacturer and manufacturer, to realize that the very size of the corporation rendered it subject to the enmity of smaller concerns and to legal attack and public disapproval, and that the only way of overcoming this danger was to gain the good will of all by a open and straightforward policy. As the years passed these differences were gradually smoothed out. The directors, as a whole, came to see that Gary's policy was the right, in fact the only one to pursue, and harmony was gradually brought out of the conflicting elements and opinions. With the passing of the years Gary gained the ascendancy in determining the courses of action of the corporation. Always its chief executive officer he eventually became, to all intents and purposes, the corporation. And it is a high tribute to his judgment and foresight that all of those who disagreed with him at first have later admitted, as did Schwab, in a published speech, "He was right and I was wrong."

Charles M. Schwab did not long remain as president of the corporation. His health broke down shortly after its formation and, in 1903, he resigned his position and sailed for a long rest abroad, later coming back to America to purchase control of a small independent concern and to build up an organization of his own that today ranks high among the steel making companies of the United States.

At the time of Schwab's resignation the Executive Committee was abolished, the position of Chairman of the Board created, and Gary was elected to that office. William Ellis Corey, President of the Carnegie Steel Co., was chosen President of the corporation to

succeed Schwab, on the latter's recommendation, and continued in this capacity until the end of 1910, when he resigned to be succeeded by James A. Farrell, the man who had built up the corporation's export trade and who was then President of the United States Steel Products Co.

Before the new born corporation had passed the first anniversary of its birth Robert Bacon resigned as Chairman of the Finance Committee and was succeeded by George Walbridge Perkins, another Morgan partner. Mr. Perkins continued in this office for several years, but later retired, since when Judge Gary has filled the offices of Chairman of the Finance Committee and of the Board. He is by the corporation's by-laws named "chief executive officer in general charge of the affairs of the corporation."

In the first nine months of its operations the United States Steel Corporation reported net profits of \$84,779,-298. After the payment of sinking fund and interest charges on the bonded debt \$61,420,304 was left for distribution to stockholders. Dividends of $5\frac{1}{4}$ per cent. (at the annual rate of 7 per cent.) on the preferred stock, and 3 per cent. (at the annual rate of 4 per cent.) on the junior issue, were paid, the balance after these disbursements, \$19,414,497, being carried to surplus account.

In 1902 a gross business of \$560,510,479 was done and the net profits therefrom were \$133,308,764. The year was a fairly profitable one and although a special appropriation of \$10,000,000 for new construction was made and over \$14,000,000 was put aside for depreciation and extraordinary replacement, the big company was able to show the full dividends earned on its stock of both classes and a surplus balance of \$34,253,657.

The following year was one of general business depression and the steel industry, the barometer of trade, was seriously affected. The result to the corporation is shown best by the simple fact that on December 31, 1903, unfilled orders on the books of the subsidiary

companies aggregated 3,215,123 tons, against 5,347,253 tons a year previous. This falling off in orders was accompanied by declining prices and the directors of the corporation were impelled to reduce the quarterly dividend on the common stock for the third quarter from 1 per cent to one-half of 1 per cent, and to pass the junior dividend altogether in the final quarter. Gross sales for the year were \$536,572,871, and net profits \$109,171,152, the surplus for the period being \$12,304,917.

Several changes in the make-up of the subsidiary companies occurred in this year. The most important was the incorporation of the United States Steel Products Export Co. (the "Export" was later dropped from the title), headed by Farrell, to conduct the corporation's foreign business. The Carnegie and National Steel companies and the American Steel Hoop Co. were merged into one concern, known first as the National Steel Co., the name being later changed to the Carnegie Steel Co. Lastly the American Tin Plate Co. and the American Sheet Steel Co. were consolidated as the American Sheet & Tin Plate Co.

The depression that began in 1903 lasted well into the year following and affected earnings of the corporation to such an extent that, for the first and only time in its history, the wages of the men employed in the plants were reduced. Gross sales for the year were only \$444,405,431, and net profits \$73,176,522. No special appropriation for new construction was made and, despite the small profits, the corporation managed to show a surplus after the payment of the full preferred dividend of \$5,047,852.

But the wave of prosperity was returning. The first signs made themselves felt in the late months of 1904 and the corporation's earnings showed marked improvement in 1905. Gross sales amounted in value to \$585,331,736, and net profits to \$119,787,658.

A surplus of \$43,365,815 was reported after the pre-

ferred dividend payment, but \$26,300,000 was deducted for new construction in contemplation, so that the net amount added to surplus was \$17,065,815. In this year production reached the highest mark so far recorded by the big company, the output of pig iron being 10,172,148 tons, of ingot steel nearly 12,000,000 tons, and of rolled products 9,226,386 tons.

In the annual report for 1905 is found the following statement by Judge Gary: "It has been decided to construct and put into operation a new plant to be located on the south shore of Lake Michigan, in Calumet Township, Lake County, Indiana, and a large acreage of land has been purchased for that purpose. It is proposed to construct a plant of the most modern standard. * * *"

About the time these words were being written work on the new plant was being started and the foundations of a new city, now having a population of 40,000, were being laid. It is appropriate that the name chosen for this town should have been Gary, although Judge Gary had nothing to do with the selection of the name.

All previous records for production and profits were shattered in 1906. The betterment in steel conditions that started in 1905 continued throughout the ensuing year, and, indeed, until the latter part of 1907, when the disastrous panic occurred. The corporation's report for 1906 showed that it had increased its capacity for pig iron production over 63 per cent. and its steel capacity nearly 57 per cent. between the date of its organization and January 1, 1907, and this increase enabled it to take advantage of the business betterment and to profit thereby. In 1906 the corporation's blast furnaces poured out 11,267,377 tons of pig iron, while its steel plants produced over 13,500,000 tons of ingots and 10,578,000 tons of finished material. The gross sales of the year amounted to \$696,756,926, and the net profits to \$156,624,273.

These large earnings justified the resumption of divi-

dends on the junior stock and 2 per cent. on the issue was paid. The balance after dividends was \$62,742,860, but special appropriations for proposed expenditures on the Gary plant and for other purposes were made, calling for \$50,000,000, this reducing the net carried to surplus account to \$12,742,860.

Another important event of the year in the corporation's history was the incorporation of the Universal Portland Cement Co., which was formed to take over the cement plants operated by the Illinois Steel Co., and to erect new plants for the manufacture of this profitable by-product. The production of cement had grown from 486,357 barrels in 1902 to 2,076,000 barrels in 1906. The Universal company immediately started work on the erection of two new plants, one at Buffington, Indiana, within a few miles of the Gary plant, and the other at Universal, Pa., near Pittsburgh. The results of this enterprise have entirely justified the expectations of the corporation's management and the manufacture of the by-product has increased until an output of 11,197,000 barrels was reached in 1913.

But the most notable event of 1906 was the negotiation of a lease by the corporation on the ore properties owned by the Great Northern and Northern Pacific railway companies, commonly known as the Hill Lease.

That the corporation would eventually make some arrangement to secure control of the mining rights on the Hill ore properties had long been believed in the steel trade. It was pointed out by trade authorities that the big company did not have ore reserves commensurate with its immense output and the obvious conclusion was that it would not fail to secure such reserves sooner or later. The vast properties in the Mesabi Range owned by the railroads dominated by James J. Hill constituted, it was claimed, the only commercially valuable supply of importance which had not yet been appropriated by one steel company or another, so the natural conclusion was that the corporation must eventually attach to itself these supplies of ore.

Negotiations leading up to the lease went on for several years before the matter was finally brought to a head in December, 1906. The lease, which was probably the most voluminous document of its kind ever written, gave the corporation the right to mine the Hill ores until exhaustion, or, at the corporation's option, until January 1, 1915, the exercise of this option being contingent upon a two year notice to be given before that date. The corporation declined to enter into the lease unless it should contain a provision for cancellation, and it later exercised this right, the directors at the close of 1912 serving notice of their intention to abandon the lease in two years.

Comprised in the Great Northern ore lands were some of the richest and best iron deposits in the country. Of a total area of over 65,000 acres owned or leased by the Hill interests, 39,296 acres with an estimated ore content of something like half a billion tons were included in the lease to the Great Western Mining Co., a Steel Corporation subsidiary and the nominal lessee.

The volume of ore to be mined and the royalties to be paid were arranged on an ascending scale. In 1907 the Great Western company was to take out 750,000 tons of ore and this tonnage was to be increased by as much again every year the lease continued up to 1917, when the tonnage to be mined was fixed at 8,250,000 tons, at which figure it was to remain thenceforward until the contract was expired by reason of ore exhaustion.

Royalties on the ore mined were based on a price of 85 cents per ton of dried ore with a metallic content of 59 per cent. for the first year of the lease, this base price being increased by 3.4 cents a ton each year—i. e., to 88.4 cents in 1908, 91.8 cents in 1909, etc. To this royalty was to be added transportation charges of 80 cents a ton to the docks at Superior, Wis., the contract providing that all the ore was to be shipped via the Great Northern Railway. For each variation of 1

per cent. above or below the 59 per cent. metallic content, it was further stipulated, the base price was to be increased or diminished by 4.82 cents a ton.

Critics of the corporation have charged that the Hill lease was entered into with a view of giving the big company a practical monopoly of the ore reserves of the country. Those responsible for the deal have strongly asserted that their sole object was to ensure an adequate ore reserve for the future. The question resolves into one of motives and is therefore not susceptible of proof. But whatever were the motives of the Steel Corporation's management the fact remains that, according to the opinions of the best qualified experts outside the corporation itself, the big company, at the time the lease was made, did not have a supply of ore such as its vast output demanded, and does not now have such a necessary supply. Further, it is doubtful if, outside of the Hill holdings, a large enough reserve of commercially available ore is to be obtained in the United States.

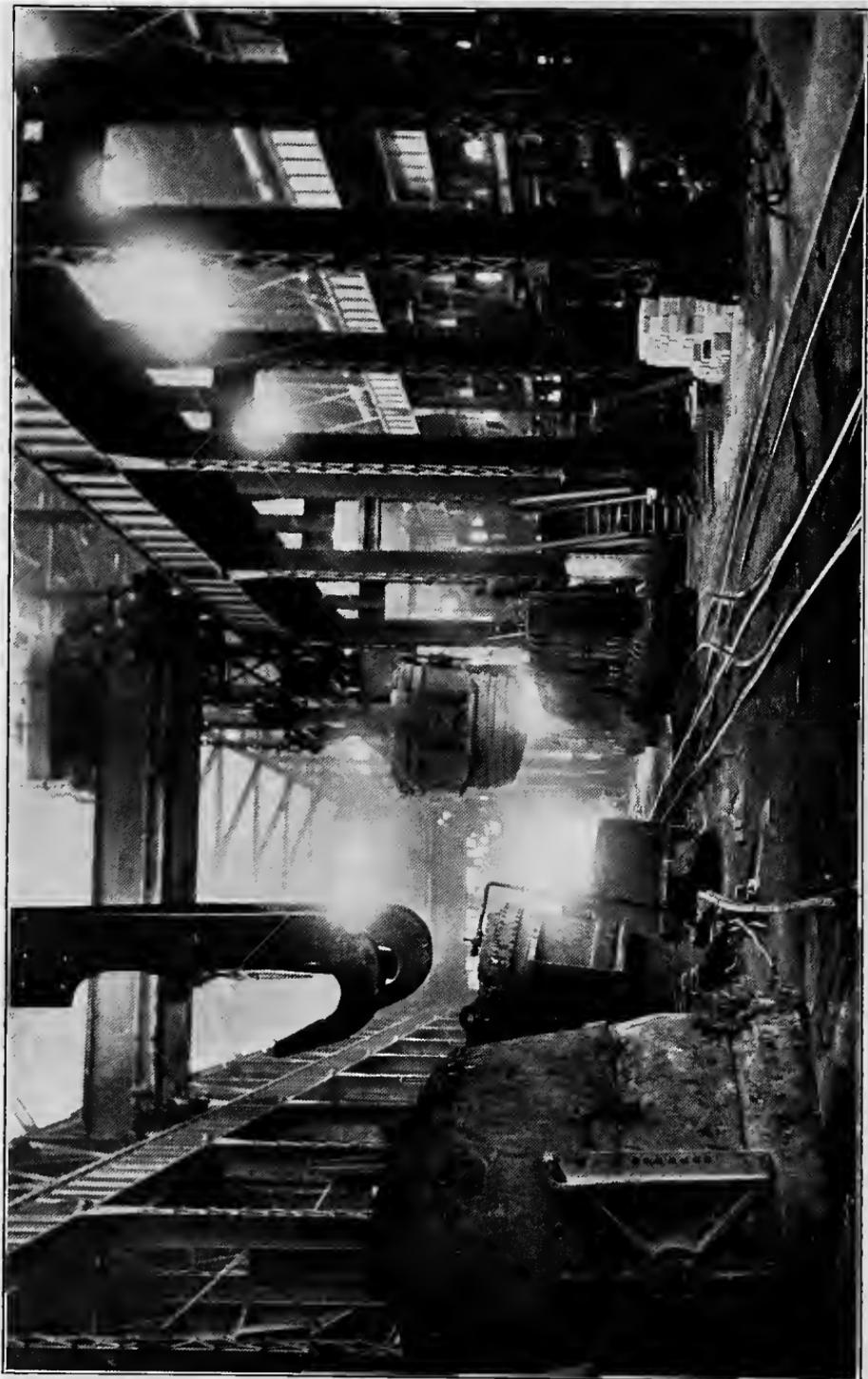
The claim that the royalties paid under the Hill lease were too high is borne out by the undisputed fact that royalties paid on other ore deposits in the same territory at the time of the signing of the contract were much lower than those paid under the lease by the corporation. Unusual conditions governed this transaction, however. The lessors were well aware of the corporation's need of ore and that they were probably the only ones in a position to fill this need. They were therefore able to drive a hard bargain. The price originally demanded by Mr. Hill and his associates, it is understood, was one dollar a ton and it took some three years' negotiations before a price which both parties to the matter would accept could be arrived at.

What was the reason for the cancellation of the lease? It is generally thought that the directors of the corporation were impelled to their decision by the report of Commissioner of Corporations, Herbert Knox Smith,

who conducted a searching investigation into the corporation's activities and severely criticized the lease, and by the fear that it would be made much of by the Federal Government in its suit for the dissolution of the "Steel Trust" which was pending at the time of the cancellation. And these considerations did have weight in bringing about the decision. But the more cogent reason was a purely business one—the lease had not proved as profitable as had been hoped. The iron content of the Hill ores, it is understood, had not measured up to expectations, the cost of concentrating the ore proved too high, and on the whole the deal had become rather a burden than otherwise to the lessee.

Up to the end of 1906 the United States Steel Corporation had spent over \$200,000,000 in the acquisition of new properties, the construction of new plants and the extension of old. Its productive capacity had been increased enormously. Its plants were now in excellent shape, its organization in perfect working order. Prices were high and it had, at the close of the year, nearly 8,500,000 tons of business on its books. Its early difficulties were past and it seemed about to enter into the heyday of its prosperity,

POURING INGOTS



CHAPTER IV

THE TENNESSEE PURCHASE

ON the events of the year 1907 the United States Steel Corporation must, to a certain extent, stand or fall at the bar of public judgment. This was the year of the panic and of the Tennessee Coal, Iron & Railroad purchase. The panic, enemies of the corporation assert, was precipitated by the big "trust" by the immoral use of its immense financial resources to enable it to "gobble up" the properties of the Tennessee company, a competitor said to have been making big inroads into the business of the larger concern and which it had therefore become necessary either to destroy or absorb. The friends of the corporation, on the other hand, are equally emphatic in asseverating that the competition offered by the Tennessee company was not such as to cause anxiety to the management of the Steel Corporation, that it was not a very valuable property and that the corporation purchased its stock only upon solicitation by the interests controlling the company and their assurance that a refusal to do so would result in the failure of an important security house, which would add greatly to the severity and danger of the panic. They claim further that the price paid was more than the actual value of the stock and that, far from using any advantage it may have had to squeeze the smaller concern, the "Steel Trust," against the better judgment of its management and with the single purpose of alleviating the panic dangers, paid for the securities it took over something like 60 per cent. more than good business practice seemed to warrant.

If the claims of the first are correct and the corporation did use its power to force a competitor to the wall, regardless of the fact that in so doing it was bringing misery and calamity to the ninety millions of people of the United States, this act alone must be more than sufficient to convict it on a more serious charge than "monopoly in restraint of trade"—of high treason and betrayal of the trust which big business, willy nilly, undertakes. But if the corporation, through its directors, put the national welfare before all other considerations this, conversely, should prejudice public opinion, properly informed, in its favor. And this is why the year was by far the most important epoch in the corporation's history and its events are worthy of careful consideration.

And here let me state that although I have made a careful search through all the evidence submitted by the Government to this end in its pending suit against the big company, I have failed to find one iota of evidence which, so far as I can see, connects the corporation with the panic or upholds the charge that it conspired to force the Tennessee stockholders to sell. Not long ago I put the question bluntly to a man who had been a member of the syndicate that controlled the fortunes of the Tennessee company before it was absorbed and who, if the allegations referred to are correct, was one of those who suffered at the corporation's hands: "Did the Steel Corporation use its power to create the panic of 1907 so as to gain possession of the Tennessee stock?" He replied: "Absurd. The charge is baseless—except in politics. The sale of the Tennessee company was an incident arising in the course of the panic, not a cause. The corporation was offered a chance to get what I consider a valuable property and seized it. But let me tell you," he added, "the corporation did not get the property cheap."

The Tennessee Coal, Iron & Railroad Co. was a reorganization of an earlier concern of the same name

located in Alabama. The reorganization brought into control of the company new and powerful interests, and these spent a good deal of money in improving the plants, so that, about the beginning of 1907, it was pointed to as a probable important competitor of the corporation. It was also considered as the nucleus for a possible merger of the steel making concerns of the South such as would be able to cut severely into the corporation's business. Not long before the panic broke the company secured an order from the railroads controlled by the late E. H. Harriman for 150,000 tons of steel rails and it was supposed by some that the loss of this order had caused considerable worriment to the heads of the Steel Corporation—which doubtless it did. Then came the panic, and when its dust cleared away the Tennessee company was a subsidiary of the "Steel Trust." The sequence has served to lend plausibility to the charges made against the corporation in connection with the purchase. But a full recital of the events bearing on the deal tends to throw a different light on the matter, and an attempt to set down the more important of these details will be made here.

Emphasis has been laid on the Harriman order, particularly because the Tennessee company had contracted to supply the lines controlled by the great railroad magnate with the new open hearth steel rail, then coming into popular favor with the railroad experts and which today are used almost exclusively by the larger transportation systems. It has been alleged that the corporation was very desirous of adding to its properties the plants making this new kind of steel rail and getting immediate control of their manufacture. The facts are that the southern company did not make a pure open hearth rail, its steel being made by a combination of the bessemer and open hearth processes, and the corporation at the time was engaged in building its new plant at Gary, a plant which was to include a large rail mill to make open hearth rails exclusively.

When the corporation took charge of the Tennessee properties it was found that the company's rail mill was being operated at a loss of nearly \$4 a ton. Further, a very large percentage of the rails which had been supplied the Harriman roads before the transfer of the properties proved defective and the new management had to bear the loss of replacing these.

It is unnecessary and futile, in this brief chapter, to go fully into the story of the panic of 1907, or of the events that preceded it. Suffice it to say that the panic followed a period of enormous expansion and of extension of credit eventually carried to a point where business overreached itself and, in a country lacking an elastic currency system, such as the United States then was, financial stringency was bound to follow. The first rumblings of the coming storm went unheeded and it was not until late in the year that there was any realization of the desperate state of affairs. Then one big trust company closed its doors and was followed by others. Banks stopped specie payments, stocks tumbled headlong on the exchanges of the country, industry halted, throwing thousands out of employment, and the financial hurricane swept over the country, leaving ruin in its wake and making its effects felt over the whole world.

While the panic came like a thunderclap to the average citizen, without warning, the big bankers had seen the danger threatening and had made an effort to prevent any occurrence which might precipitate matters. In the latter part of October rumors gained circulation that the Knickerbocker Trust Co., one of the leading financial institutions of New York City, was in trouble and the late J. Pierpont Morgan, who had assumed the leadership of the country's bankers in the crisis, and others, had an examination made of the company's affairs with a view to rendering it assistance. Apparently the result of this investigation was unsatisfactory. Anyway, the Knickerbocker Trust Co. was abandoned to its

fate and, at fifteen minutes to one, on October 22, closed its doors after a sensational run, many stock exchange firms being overwhelmed in the crash.

Thus did the panic storm break. Rumors of trouble in connection with other institutions then came thick and fast, and one concern, the Trust Co. of America, was especially talked of. This institution had a capital of \$2,000,000 and resources of \$74,000,000, including \$12,000,000 cash in its vaults at the time. Under normal conditions it was perfectly solvent and able to meet its depositors' claims, but that it was not in a position to withstand a prolonged run was proved by subsequent events. Realizing that the failure of the Trust Co. of America would make the crisis far more acute, Mr. Morgan and his associates resolved to come to its assistance, provided it could prove that its statements of condition were correct.

Meanwhile George Cortelyou, Secretary of the United States Treasury, had hurried on to New York from Washington and on the night of the 22d he held a conference at the Hotel Manhattan with Morgan, George W. Perkins, one of his partners, James Stillman and Henry P. Davison of the National City Bank, and others. After the conference, which lasted over the greater part of the evening, Perkins and Davison adjourned to the Union League Club, where they were met by Oakleigh Thorne, president of the Trust Co. of America, who had been summoned by telephone.

These were strenuous days for bankers. No coming downtown late and leaving early. The confab at the club started at nearly midnight and lasted until long after. Thorne made a statement of the financial condition of his company and the others promised that, if the facts were as represented, he would be assisted. No time was to be lost. Perkins immediately arranged for the examination and Thorne was at his desk at half past six on the morning of the 23d. By seven the examiners were at work.

But the newspapers were on the watch and the fact that the Trust Co. of America was in need of assistance was known and discussed over the breakfast tables of New York, and in fact, of the country. By the time the company opened its doors that day there was a clamorous mob outside, each individual seeking to save himself before the crash came, and the crowd surged through the doors and up to the paying teller's window, demanding its money.

In vain did the officers of the company put seven tellers to work instead of the usual one, in vain were all deposits paid promptly and unhesitatingly. Denser and denser grew the crowd of depositors and it became obvious that the millions that had been passed over the counters in the morning hours would not suffice to stem the tide. Thorne hurried over to the Morgan offices and there succeeded in obtaining \$2,500,000 immediately. This loan was subsequently augmented by another of \$10,000,000 made a few days later and a third of \$15,000,000 made early in November.

On this one day, October 23d, \$13,500,000 was paid out over the trust company's counters! But this was not enough to stem the run which continued for over a week and did not abate until, so far as can be estimated, something between \$30,000,000 and \$35,000,000 was paid to depositors.

But the Trust Co. of America was saved. It has been claimed that the price of its salvation was the surrender by its president of some 5,500 shares of Tennessee Coal, Iron & Railroad stock which he owned. It seems plain, however, that the suggestion that the Steel Corporation should take over the control of the Tennessee company came first from the people who had the majority stock of the company and after the beginning of November, before which time the bankers, headed by Morgan, had loaned the trust company \$12,500,000 without any mention of or question regarding the stock. It also appears that the transfer of

Thorne's stock to the corporation had no connection whatsoever with the trust company's difficulties and its extrication therefrom, but was part of a separate and distinct transaction.

Particular attention has been given here to the affairs of the Trust Co. of America, because of the allegations connecting the help rendered the company with the Tennessee purchase. But it really constituted only a small part of the situation with which Morgan and his fellow bankers were faced. There were many others that needed help, banking institutions, investment houses, brokers and so on. The whole financial community had turned to Morgan as its Joshua to lead it out of the desert. Upon his shoulders fell the burden of saving the country from financial ruin.

The Morgan library became as the headquarters of an army. Here were congregated at all hours of the day and night bankers, brokers, business men of all kinds, both those who needed help and those who could assist the banker in the work he had thrust upon him and the arduous duties which he had assumed. Men rushed in and out of that library, pleaded for help, begged for information and, awaiting their turn, even slept in its luxurious chairs.

The task that Morgan and his associates had undertaken was one of exceedingly great difficulty. Despite all that had been done to dam the torrent of financial disruption and the fact that each weak spot was strengthened as soon as discovered, the banker knew that his herculean efforts might be brought to nothing by one big failure which would let loose the panic fears it was sought to allay. Hence it may be imagined with what consternation the financier received the news, brought to him by Lewis Cass Ledyard, a prominent lawyer and a close friend of his, that Moore & Schley, one of the leading brokerage firms in the "Street," was in serious difficulties and needed several millions of dollars to save it from disaster.

Moore & Schley was deeply mixed up with the affairs of the Tennessee Coal, Iron & Railroad Co. One of the members of the firm was a member of the syndicate that controlled the company and Tennessee stock constituted a considerable proportion of the collateral which it had put up to secure loans for itself and its customers. This stock, considered good collateral in normal times, failed to find favor with the bankers to whom Moore & Schley was heavily committed in the time of stress, and the brokers were called on to replace the securities with others of a more approved character—which they were unable to do—or to suffer the calling of their loans and consequent bankruptcy.

Only two courses were open to the brokers, either to borrow a sum large enough to meet their loans or to negotiate an exchange of the Tennessee stock for some other security which the banks would accept. They chose the latter and, realizing that the United States Steel Corporation was the only possible buyer of the Tennessee stock, approached Morgan through Ledyard to that end.

Suggestions that the Steel Corporation should purchase control of the Tennessee properties had been made in the past to the corporation interests by one or more of the directors of the southern company. It does not appear, however, that these suggestions were authorized by the Tennessee syndicate as a whole. Be that as it may, they came to naught, as the directors in question seemed to have a very high idea of the value of the Tennessee stock and the divergence of opinion on this question between them and the possible purchasers was so great that no middle ground was possible. Never did the tentative offers to sell reach a point where they were worthy of the term "negotiations."

One of the reasons alleged for the Steel Corporation's supposed fear of the Tennessee company's competition was that the company was the potential basis

for a merger of the steel concerns in the South which would not only be strong enough to offer a stubborn fight to the "trust" for business in the section below the Mason and Dixon line, but would have a distinct advantage over in exporting steel to Mexico and Central and South America.

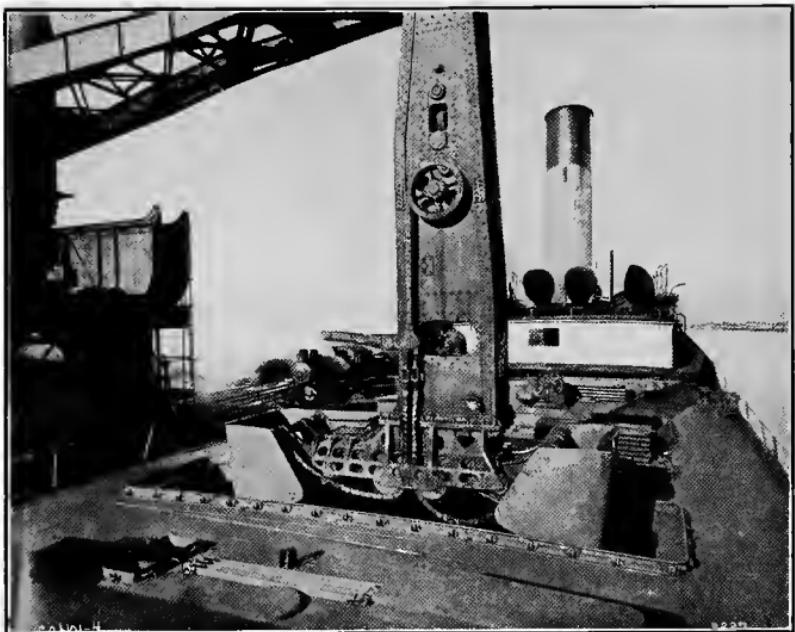
John A. Topping, head of the Tennessee Coal, Iron & Railroad Co. and of the Republic Iron & Steel Co.—dominated by the same interests—had actually taken steps for the establishment of a market on the Gulf coast. In the Rivers and Harbors Act of 1899 the construction of locks and dams and other improvements on the Warrior River so as to give slack water communication between Birmingham, Ala., near which city the mills of the Tennessee company were situated, and Mobile, was decided on. But the matter rested there until Topping, by his efforts, secured an appropriation to carry out the improvements, which, it happens, should be completed about the time this is published. Not only would the water route have been important to the Tennessee company in regard to the markets mentioned, but it would have enabled the company to enter the markets on the northern Atlantic coast of the United States, from which it had been debarred by the high rail freight rates.

Reports that a steel merger in the South was contemplated or actually under way had been circulated from time to time. The three companies mentioned as constituting the consolidation were the Tennessee Coal, Iron & Railroad Co., the Republic Iron & Steel Co., and the Sloss Sheffield Steel & Iron Co. Other less important concerns were also suggested. The Sloss Sheffield company was engaged entirely in the manufacture of iron and was a rather small concern as compared with the steel giants of the day. But it was conservatively capitalized and managed and had—and still has—an unbroken dividend record in respect to its preferred stock. At its head was, and is, Colonel

J. C. Maben, a veteran iron maker and one of the best known and most respected figures in the industry. Colonel Maben was approached by one of the Tennessee directors with a merger proposition, but refused to consider it because, as he has since said, he did not think the financial condition of the Tennessee company sound. If there had ever been any possibility of the merger going through, Colonel Maben's attitude would have effectually stopped it.

From this it would appear that the proposal to merge all the larger steel and iron companies of the South never developed beyond the nebulous stage. However, a consolidation of the two largest of these concerns, the Tennessee and the Republic companies, had been definitely decided on. The two concerns were controlled by the same financial interests and their managements were practically identical. While it is not unlikely that some of the directors of the companies, among whom were John Werne, or "Bet You a Million" Gates, looked upon their investment therein first and foremost as a speculation and would, in consequence, have regarded favorably the opportunity to sell out at a fair figure, there were others who had implicit belief in the possibilities for the expansion of the steel industry in that section and considered that they had in their hands the opportunity to build up a southern steel empire. The amalgamation of the two companies, naturally, would have been the first step to this end, and, as has been stated, it had been decided on and its consummation was being delayed only until what seemed to be a favorable time should arrive. But their dream of empire was doomed to disappointment.

Another reason advanced for the Steel Corporation's supposed anxiety to get its clutches on the Tennessee Coal, Iron & Railroad Co. was that the latter concern owned ore mines estimated to contain some three-quarters of a billion tons of iron ore, besides coal resources placed at two billion tons, as well as limestone and



NEAR VIEW OF 15-TON ELECTRIC UNLOADER ENTERING HATCH
OF VESSEL



ORE CARRYING STEAMER, ELBERT H. GARY. SHOWING HULETT
UNLOADING MACHINE AT THE STERN

other raw materials necessary in the manufacture of steel. The company also enjoyed the undoubted advantage of having both its coal and iron in the ground within a twenty-five mile radius of its ovens and furnaces—it was "sitting on its raw material"—whereas the steel mills in the North were great distances from their raw supplies—Pittsburgh, for instance, depending for its ore on the vast iron ranges of Northern Minnesota.

The proximity of its mines is, of course, a material advantage to the southern company, as transportation charges on raw material play a very important part in the cost of steel making. It is perhaps not so generally known that this advantage is to a large extent counterbalanced in other ways. Were it not for the saving thus gained it is questionable whether it would be possible to manufacture steel commercially in the South.

In the Hill lease the price which the Steel Corporation was to pay on the ore taken out of the Great Northern holdings in the Mesabi region was based on an iron content of 59%. Northern ore averages well over 50% metallic content and that yielding much under 50% is not considered commercially available, although some of the lower grade ore is treated by a concentrating process and made so. Moreover, much of the ore of the Great Lake region lies in immense bodies within a few feet of the earth's surface and is mined by the simple process of removing the top layer of soil—technically known as stripping—and then putting a steam shovel to work.

But the ore beds from which the Tennessee company draws its raw supplies average well under 40% in iron, actually from 36% to 37%, nor does it lie near the surface, and the process of making it into iron and steel is necessarily more tedious and more costly than is the case with the richer and more easily reached northern iron.

In the first place, more labor is required, particularly in winning the raw materials, as the coal fields are badly disturbed geologically, making the expense of mining very much higher. And the ore is nearly all hard ore, requiring to be drilled, blasted and crushed. Further, the low iron content requires the use of about one and three-quarter times as much ore per ton of pig iron, and the poor quality of the Alabama ore necessitates the use of about half as much again of coke to make a ton of iron as compared with that coming from the Lake Superior district.

The high phosphorous content of southern pig iron prevents the use of the cheaper Bessemer process which is used on the low phosphorous pig iron of the northern district, and the fact that no Bessemer steel industry exists in the South to furnish the scrap required in the straight open hearth process, prevents the economical use of this process in the South, a disadvantage which does not exist in the North, where scrap is available. Hence it is advisable in the Birmingham district to use a combination of the two processes, the iron being first bessemerized, then worked through the open hearth furnace. And this adds greatly to the cost of converting a ton of pig iron into steel.

Another difficult problem with which the Tennessee company had to contend was that of labor. The large majority of the common labor supply in the South is made up of negro labor and, while the colored man often makes a satisfactory worker if properly "bossed," he is unreliable and too often has as his motto "never do today what you can put off until tomorrow." Given assurance of enough to eat for a day or two and a dollar in his pocket, he is likely to refuse to work until again urged by the spur of necessity—childlike, his vision of the future is limited. And this disposition to take life from day to day is, to put it mildly, trying to the manufacturer who needs a full force to get out tonnage.

And even if the negro is reliable he is seldom fitted

to take positions of responsibility, so that workmen must be brought from the North to undertake the skilled work or that requiring managerial ability. And as the opportunities for such men are greater in the North, the keeping of an efficient organization together means a constant struggle on the part of the manufacturer, becomes an ever present and pressing problem.

The expansion of the steel industry in the South is further limited by the fact that it is an agricultural, not an industrial, section. A steel mill does not, in the main, make products to be sold direct to the ultimate consumer. Its output must be manufactured by other companies into machinery, locomotives and a thousand and one other things. Its customers are other industries, and there are comparatively few industries in the South. Thus it would seem that the formation of great southern steel merger or the expansion of the Tennessee company to a size sufficiently large to cause apprehension to the "Steel Trust" was a very remote contingency.

It might not be out of place here to point to the significance of the fact that the Republic Iron & Steel Co., which owns important tracts of ore and coal lands in the South just as conveniently situated to its furnaces as are the Tennessee's holdings, has not made marked use of the supposed advantages which it obtained from its southern properties. The company's expansion since 1907, under John A. Topping's able management, has been great, but it has been almost entirely in the North.

These things, the conditions that surrounded and influenced steel making in Alabama, were well known in the steel trade. Therefore it was hardly to be wondered at that when Ledyard, through Morgan, suggested to the directors of the Steel Corporation that the controlling interest in the Tennessee company should be purchased by its bigger and richer rival, the proposal was not enthusiastically received. The deal,

for any other reason than the saving of the financial situation was opposed by both Gary and Frick. The latter, in particular, seemed to think that almost any other course was to be preferred to an absorption of the Tennessee company, and it was he who suggested that a loan of \$5,000,000 be proffered Moore & Schley to save them from bankruptcy. But the members of the firm rejected this offer.

It was not a time for delays, for dickering. The financial situation was a seething volcano which might erupt at any minute. From Friday, Nov. 1, when Ledyard first presented the matter to the banker, meetings of the Steel Corporation's finance committee and conferences between Gary and Frick and representatives of Moore & Schley were held almost continuously until Sunday, Nov. 3, on which date the Steel Corporation management finally yielded to the insistence of the brokers and agreed to purchase the controlling stock of the Tennessee Coal, Iron and Railroad Company at par, or \$100 a share, about twice the value that had been set on the stock by Gary in his earlier talks with Ledyard.

Followed the now famous visit to Washington. The deal, though practically completed on Sunday, was not formally closed. Gary insisted that the President of the United States should be consulted and that his attitude should be ascertained, and Frick demanded and received an assurance from Morgan that every assistance possible would be rendered other companies which were in difficulties before the purchase should be consummated.

At midnight Sunday a special train left Jersey City bearing the two Steel Corporation directors and they were delivered at the national capital shortly after day-break Monday. Theodore Roosevelt, then President, was breakfasting when the two arrived at the White House, but he gave them immediate audience and to him the steel men explained the situation and asked

whether the Government would be antagonistic to the absorption of the Southern company. Gary, who was spokesman, told the President that he and his associates realized that the deal might be used as a handle to attack the corporation for attempted monopoly—prophetic words—that they were only considering the purchase because of the strained financial situation which it would tend to alleviate and finally that the taking over of the Tennessee properties would still leave the big company with less than a 60 per cent. control of the country's steel trade. This percentage, Gary explained, was the limit which the corporation had set for itself and was one, incidentally, from which it was gradually receding, its percentage of the steel production of the United States having shown an almost uninterrupted decrease from year to year.

With President Roosevelt at the interview were his private Secretary, William Loeb, afterwards Collector of Customs of New York, and Elihu Root, Secretary of State. Then President consulted with the head of the State Department and decided that it was not in his province to give formal approval to such a transaction. He nevertheless gave satisfactory assurance to Gary and Frick that the Federal Government would put no obstacle in the way of the completion of the transaction. These views Mr. Roosevelt later repeated in a letter to Attorney General Bonaparte.

No sooner was Gary satisfied as to the President's attitude than he informed Morgan by long distance—a 'phone having been kept open in readiness—of the course of the interview, and the banker announced to the financial interests of New York that the Steel Corporation had arranged to purchase control of the Tennessee Coal, Iron & Railroad Co. That memorable morning, Monday, Nov. 4, had dawned dark and gloomy for the financial world for which Wall Street is the nerve center, but no sooner had Morgan's announcement become known than a marked change

towards a more optimistic sentiment, a genuine improvement in the situation, become apparent. This the banker repeatedly and emphatically declared before his death.

Immediately on the return of the two steel directors to New York the purchase was completed, Moore & Schley turning over to the corporation 157,700 shares of common stock of the Tennessee Coal, Iron & Railroad Co. and receiving therefor \$18,774,000 in second mortgage bonds of the corporation, it having been agreed that the stock was to be paid for at par, in bonds at a market value of 84. Other common stockholders of the Tennessee company were offered the same terms and the corporation has since acquired all the outstanding common stock of the southern company except 872 shares. The \$124,500 preferred and \$178,600 guaranteed preferred stock of the company is all held outside of the Steel Corporation.

George G. Crawford, Manager of the plants of the National Tube Co. at McKeesport, was appointed President of the Tennessee Coal, Iron & Railroad Co. under the new management. Crawford accepted somewhat hesitatingly at first, knowing that a great deal of money was required before it would be possible to put the company on a satisfactory earning basis. Indeed, he had previously refused to consider an offer of the position of manager under the former control. Under his guidance the company did rather better than expected and, by about the end of its second year as a "Steel Trust" subsidiary, was showing a small profit. All earnings, however, were put back into extensions and betterments, as was also a large amount of cash supplied by the controlling corporation, and it was not until the year 1914 that the first dividend on the common stock, 1 per cent., was declared. But the value of the properties and their earning power has been enormously enhanced and this will show its effect on future profits.



ELBERT H. GARY



CHARLES M. SCHWAB



J. P. MORGAN



GEORGE W. PERKINS

CHAPTER V

THE MEN OF THE CORPORATION.

ELBERT HENRY GARY, chief executive officer of the United States Steel Corporation, was born on a farm near Wheaton, Illinois, on October 8, 1846. He was a descendant of old New England stock on one side and of French on the other, the forebears of his father, Erastus Gary, having been among the early Puritan settlers in Massachusetts, while his mother, Abiah Vallette Gary, was sprung from one of the daring spirits who sailed from France in the train of Lafayette and fought with him for the freedom of the American colonies.

The future head of the Steel Corporation was brought up frugally. Full of spirits and fond of play, he was more or less repressed by his Puritan father, who was a believer in the discipline of hard work. His days were spent at school, his mornings and evenings doing chores around the farm or studying. "My father didn't believe much in play," he once told me. But though Erastus Gary may have been stern and uncompromising he was at the same time a fond and kindly father. When I asked his son what had been the dominating influence in his life, to what he attributed his success, he replied with deep feeling: "My parents. Whatever worth while I may have done I owe to their teaching and example."

Among the friends of the older Gary were Col. Henry F. Vallette and Judge Hiram H. Cody, members of the Illinois bar and the firm of Vallette & Cody, of Naperville, a neighboring town. Both were often at the Gary farm and were impressed with the signs of ability Elbert displayed. When young Gary was about eighteen

Vallette asked him: "Elbert, how would you like to become a lawyer?"

Thus was Gary's entrance upon the legal stage effected. He entered Vallette's office, and in 1865 began to read law. After spending a year and a half in the law office he took a regular course in a law school, and was soon admitted to the bar of his State, where his success was rapid and pronounced. Later he became Judge of Du Page County and was admitted to the bar of the Supreme Court of the United States. Meanwhile he had formed, with his brother Noah and his former chief the firm of Gary, Cody & Gary. His success attracted to him a number of wealthy clients, among whom were many large corporations, and it was through his connection with one of these corporations that he eventually connected himself exclusively with the steel trade, in which he has since risen to be the most commanding figure.

In 1898 Gary, as general counsel for and a director of the Illinois Steel Co., was called on to take charge of the organization of the Federal Steel Co., a merger of the Illinois and other companies. Here Gary was for the first time brought into close touch with the late J. Pierpont Morgan, whose financial aid in the formation of the company was being sought, and the business ability of the lawyer so impressed the banker that he and others interested in the new company insisted that Gary should be its president. This brought Gary to New York and made him a steel man.

Speaking of this incident an old friend of Judge Gary's said: "Legal judgment and business acumen are seldom found in combination. Gary had both these qualities, and in a higher degree than in any other man I have ever known."

In writing of the great majority of men it is easy to select some one prominent characteristic which particularly distinguishes them. But there are some who owe their eminence, we find, to a variety of well blended

attributes, and Gary is one of these. This renders it difficult for the chronicler to decide where the heaviest stress should be laid.

A prominent Chicago lawyer, one who in his youth had worked for years under Judge Gary, was appealed to in this regard. He said:

"Judge Gary had the ability and courage to, whenever necessary, abandon the old precedents which, by reason of changed times and conditions, had been relegated to the scrap heap of progress. He was one of the few attorneys who could, with almost prophetic vision, see the positions which the courts of appeal must eventually be obliged to take with reference to questions of public policy and the great industrial organizations just then in their infancy."

This lawyer went on to tell an anecdote illustrating that the Judge, although a member of the legal profession, did not believe in recourse to litigation when it could be avoided. He said:

"I recall on one occasion a client called on him in irate mood and asserted his intention of prosecuting a neighbor for slander. He told Gary what the neighbor had said and asked his opinion. And the reply he received was 'If you are guilty of what he charges perhaps you had better sue; but if you are not—why, go home and forget it.'"

Perhaps the most striking characteristic of Judge Gary is his "prophetic vision," not only as regards "the positions which the courts must take," but of the trend of human events. There is nothing in the least uncanny about this foresight, this "sixth sense" as he himself calls it. It is due entirely to the fact that its possessor has a mind peculiarly capable of estimating, sizing up, the relative value of causes, of known things and occurrences, and of deducing therefrom the natural, the inevitable results.

No better exemplification of this can be given than is afforded by the policies which he advocated for the corporation, and which were gradually adopted and practiced. He saw plainly how subject to criticism was

the gigantic organization which he had helped to form and of which he was the head; he realized that its very size was its weakness, as attracting enmity and making it a subject for attack. And in the face of powerful opposition from many of his fellow directors at first—an opposition that gradually grew less and eventually vanished, or was converted into hearty co-operation—he insisted that the corporation should so deal with all with whom it came in contact, its competitors, its customers, its workmen, as to make all these its friends. Such a consummation was regarded as an impracticable dream by men who were unable to divorce themselves from the old ideas of doing business, who could not realize that a new industrial era had dawned, but Gary persisted and won out. The good will he gained for the corporation of those who otherwise would have been its enemies has proved a strong bulwark of defense, as was shown during the trial of the Federal suit for the dissolution of the "Steel Trust." It is difficult to see how any one who had the opportunity to listen to the evidence presented at this trial could have failed to be impressed with the fact that Gary seemed to have seen in advance every point of attack and to have taken steps to minimize or eliminate the danger therefrom.

Whatever may have been the differences of opinion at first, for many years the policies advocated by Gary have been endorsed by his fellow directors on the board of the Steel Corporation, and particularly by the members of the Finance Committee who have stood behind him solidly in carrying them out. Gary himself was emphatic on this point in his testimony in the Government suit.

The part Gary played in bringing about the formation of the U. S. Steel Corporation and in guiding its policies was strongly brought out by Robert Bacon in his testimony in the Federal suit against the corporation. Bacon, speaking of the organization, said:

"Judge Gary, of course, directed it all." And later, in discussing the policies of the big company:

"The facts are that the policy of the company from the beginning has been to change the old methods of dealing with competitors. Judge Gary, who has done more for the U. S. Steel Corporation in its development and the benefits it has brought all hands than any one man since its formation, has made it a cardinal point of his policy, and has tried his best to inculcate it upon all the sub-companies, that there was a new order of things come, that there were new rules of the game dealing with competitors, as well as in other human relations. Judge Gary has talked from the very first and has tried to compel the actions of all the others in the corporation towards dealing fairly and decently with competitors, as being the only way in which any kind of stability of prices or of conditions could be maintained. He has from the beginning preached and practised the fairest kind of dealing with his competitors, keeping them informed, as far as he legitimately could, of all the conditions of the Steel Corporation, and by doing so has gradually acquired a degree of confidence that, in my opinion, has never existed before amongst competitors. The old conditions have changed; the old destructive and ruinous and ruthless warfare of the early days of the iron and steel industry has disappeared, and in its place, by reason of the attitude of Judge Gary, more than any one else, a condition has been produced among competitors in the iron and steel business, and I believe in many other industries, that never before existed."

Other marked attributes of Judge Gary are his intense desire for justice to all and his sincere interest in the well being of the worker. He is not a reformer in the ordinarily accepted sense of the term. He does not prate about helping the workingman, but in guiding the big corporation he has always seen to it that the man who labors shall be given a chance for

clean living and self respect. And the men who work for the corporation recognize and appreciate this fully.

Judge Gary, I think, sets a higher value on this recognition and appreciation than on all the other honors that have come to him. I remember an incident told me by one of the officers of the corporation in this regard.

"Some time ago," he said, "two men from the mining regions were in New York to see me in connection with their work and they asked whether it would be possible to meet the Judge, whom they had never seen. I took them to his office and Judge Gary received them immediately, rising to greet them with outstretched hand. And one of the two, as he shook hands said: 'Judge, I could not have gone back to my fellow workers without being able to tell them that I had expressed to you in behalf of all of us the loyalty and appreciation we feel towards you personally, our knowledge of the interest you take in us.'"

And here is what, to me, is a remarkable thing. In the vast organization that is the Steel Corporation there are thousands upon thousands of men who have never seen its head, who have no idea what he is like to look at. But I doubt if there is one man who does not know and feel his influence, who does not look up to him with respect and something like reverence. His personality has permeated this huge mass of men.

Another attribute of this great business leader is a broad and real tolerance of the opinions of those who do not agree with him. Judge Gary has built up a vast organization founded on what he conceives to be principles of justice and fair dealing, but his attitude towards those who criticize the structure he has erected is not one of impatience, as might be expected, or of irritation. Rather he endeavors sincerely and patiently to disarm criticism by a policy of open dealing.

On one occasion when certain acts of his had been criticized as constituting a possible violation of the law, he, although believing utterly that he had not

offended, forthwith abandoned the continuance of these acts so as to leave no shadow of doubt as to his intent to obey the law. He explained at the time that though every citizen had the right to criticize legislation, and to seek to have changed such laws as he deemed unjust or uneconomic, he was bound to obey these laws so long as they remained on the statute books.

It is perhaps only right to state here in correction of a general but erroneous impression that Judge Gary never speculates, never "plays the market." The average man is inclined to believe that the officials of large corporations almost invariably make use of special knowledge that comes to them through their work to go "short" or "long" on margin. No doubt this is true of many, although not nearly to so great an extent as is supposed. And it is not true of Judge Gary.

In stature Judge Gary is of medium height. He carries his years well and appears still in the prime of his vigor. The impression he gives the observer is more that of a diplomat than of the man of affairs, an impression that is heightened by his slow and deliberate speech and his appreciation of the finer meanings of words. Most of his portraits represent him sitting straight up, just a little stiffly, but when interested in a conversation Judge Gary invariably stands, or rather, paces slowly back and forth, his hands sunk deep in his trouser pockets and his head bent at an angle of deep thought. And, as he warms to his subject, he now and then gesticulates slightly or, turning to his listener, drives home some argument with pointed forefinger. At the remembrance of some amusing incident his beaming eyes light up the rest of his decidedly serious face.

Honors have been showered upon Judge Gary by universities, rulers, even by the Pope, the late Pius X, having presented him with a gold medal in recognition of his efforts for the bettering of working conditions, but I think he values above all else the esteem of the

men under him and the good will of his competitors. In closing this brief study of the head of the Steel Corporation it would be hard to find a more suitable ending than in repeating the quotation used regarding him by the leading steel makers of the United States and Canada on the occasion of a dinner given in his honor in October, 1909. These were men who had fought with him and against him, who had had every opportunity to estimate his value and who, after the trying times of the 1907 panic, declared that he had "played the game and played it fair."

"Moderate, resolute, whole in himself, a common good."

J. P. MORGAN.

Without J. P. Morgan the organization of the United States Steel Corporation would, in all probability, have been impossible. The carrying through of so immense a project required the prestige of the man whom the head of the great Deutsche Bank has called "the greatest financier the world has ever seen." There was no other banker big enough or, perhaps, bold enough, to undertake the task, and this is why no history of the Steel Corporation would be complete unless it contained a brief resume of the life of Morgan, brief, necessarily, because he loomed so large in the public eye during his lifetime and so much has been said and written about his personality that it would probably be impossible to say anything of Morgan with which the reader is not already familiar.

John Pierpont Morgan, son of Junius Spencer and Juliet Morgan, was born on April 17, 1837, and received his education at the English High School of Boston and at the University of Gottingen. He entered the banking business with the firm of Duncan, Sherman & Co. at the age of twenty, and later, from 1864 to 1871, was a member of the banking house of Dabney, Mor-

gan & Co. Still later Mr. Morgan helped to form the firm of Morgan, Drexel & Co., which afterwards became J. P. Morgan & Co. He died at Rome within a few weeks of the close of his 76th year, on March 31, 1913.

Morgan had a peculiar genius for financial organization, and, being in the heyday of his power at the time when vast organizations and combinations of industry and capital were the order of the day it was natural that he should have figured prominently in carrying through the largest of these. The financing of the U. S. Steel Corporation was, without doubt, his magnum opus. Another large manufacturing concern with the organization of which he was closely identified was the International Harvester Co., while he also took a prominent part in the reorganization and refinancing of several large railroad enterprises, notably the Erie, Reading, Santa Fe, Southern and Northern Pacific. He played an important part in managing the affairs of the New York, New Haven & Hartford; in fact, according to the former president of the line, he dictated its policies and actions.

So great was Morgan's influence in the managements of most of the companies with which he was connected that it has been said of him, as of the McGregor, that "where he sat was the head of the table."

But, so far as the Steel Corporation was concerned at least, it seems to have been fairly well established that, keen as his interest was in the big company and great as was his pride in it, he never assumed an attitude in the least dictatorial. He was the corporation's banker. Questions of operation and of policy he left entirely to those having direct charge of them. This was particularly true in the last five or six years of his life, by which time, so I have been told by directors of the corporation, the banker had come to place such implicit reliance on the judgment of Judge Gary, chief executive officer of the corporation, that he always ac-

cepted Gary's ideas as the best thought upon all matters connected with the corporation.

The part that Morgan took in bringing about the existence of the Steel Corporation has already been told in these pages. There is good reason to believe that he regarded this work as the crowning achievement of his career, that he took a particular pride in his connection with the corporation's organization—and who shall say his was not a worthy pride? He lived to see it firmly established and exerting an influence for good not on the steel trade alone but on industry as a whole; to see it gain the confidence of the public, as evidenced by its growing list of stockholders, many of whom hold only a share or two and regarded these almost as bonds, the good will of its competitors and the loyalty of its two hundred thousand odd employees. But unfortunately, and there is little doubt that this was a matter of great grief to the banker, he also lived to see it attacked by the law department of the government, entirely without justification as he firmly believed.

To those who knew him only by sight Morgan appeared a solitary stern figure, perhaps inclined a little too much towards impressing his own will on others. Those who enjoyed his friendship declare that under his stern exterior beat a heart as tender as a woman's, that he took the keenest interest in all things human and that, while never figuring publicly as a philanthropist, the list of his private benefactions was enormous. When he died the leading business men of the country all united in testifying to his ability and character. Judge Gary, who had been closely associated with him for several years, said:

"As a constructive force in financial matters he had no equal. With keenest perception, with indomitable courage and with unbounded confidence in the future he was a natural leader and as such he was called upon in time of financial stress to lend his influence to avert

a threatened storm or to overcome an existing difficulty. And he never failed. His character was such that the greatest men of this country and of other countries, trusted him and followed his lead."

Shortly before he last sailed from his home shores Morgan remarked to a friend that his work was done. The words were prophetic. And posterity is beginning to realize how great was this work.

CHARLES M. SCHWAB.

Charles M. Schwab, first president of the U. S. Steel Corporation and now head of the company that runs the largest armament plant in the world, is probably the most interesting figure in the realm of business to-day. One of the old Carnegie "Boys" Schwab is in many respects like the former Iron Master, particularly in his wonderful ability to infuse into those who work with him some of the enthusiasm with which he is himself so richly endowed, and to get from them utter loyalty and devotion and the best of their ability. To this attribute, as much as to anything else, Schwab owes his great success.

It is impossible to form an accurate conception of Schwab's personality without coming into actual contact with the man. I have repeatedly heard it said, often by competitors, that "C. M.," as he is known to his friends, is the "best salesman that ever stepped in shoe leather." And this is not an exaggeration. Earlier in this work I referred to Schwab's tongue of gold. There is something about him—fascination, personal magnetism, call it what you will—that captivates almost everyone with whom he comes into contact. His infectious laugh disarms hostility and criticism; his winning manner, backed up by great ability and genuine honesty of purpose, compels admiration and confidence.

Countless anecdotes are current in the steel trade of Schwab and his philosophy of good nature. I suggested to him that I had been struck by this and he said:

"I try to be like Schmidt. He was a foreman under me during the Homestead strike, and one day he came into my office dripping mud and water. To my inquiries he said that some strikers had thrown him into the creek.

"'What did you do then, Schmidt,' I asked.

"'Oh, I shust laff.'"

Here is another Schwab anecdote. Several years ago, before Bethlehem Steel had earned its present reputation financially, he visited a well-known New York banker to seek to interest him in a proposed bond issue. He told the banker all about the great future of Bethlehem Steel, as he saw it and, parenthetically, as it has since proved, and the banker was enthusiastic regarding the issue. The Schwab eloquence had carried him away.

"We'll underwrite the bonds," he said. "Go back to your office and dictate to a stenographer what you have just told me and I'll use it for a prospectus. The bonds will sell like hot cakes."

So the steel man did. But the banker was not satisfied, and rang him up on the 'phone. Schwab's arguments were not nearly so convincing in cold type as when given in his inimitable style, and the banker declared that the other had not included in the written statement the facts given in the conversation. So Schwab paid him another visit and talked the matter all over again. Then the banker said:

"Yes. You've got it all down here, but it doesn't sound the same. I tell you what. You talk the bonds into a phonograph and we'll use the records to sell the securities."

When I asked Schwab if this story were true he laughingly admitted it, and then, to show that he was not averse to a joke on himself, related another concerning his efforts to raise money for Bethlehem Steel in its early days. He said:

"I went to see a Philadelphia banker whom I knew very well, and told him I needed a great deal of money. He said:

"'I can let you have half a million.'

"'Why,' I replied, 'I can get more than that from bankers in New York who don't even know me!'

"'That's the reason,' he gravely returned."

Charles M. Schwab was born at Williamsburg, Pa., on February 18, 1862. He was educated at St. Francis College, Loretto, Pennsylvania, where he spent his boyhood. His entrance into the steel trade was the result of Andrew Carnegie's love of music. Schwab's father owned a livery stable at Cresson Springs and sometimes Carnegie, who had a bungalow there, hired horses from him. One day the little Scotchman heard a boy's voice singing and was struck with the youth's gift of music.

"When that boy of yours is ready to look for a job, you bring him to me," he told Schwab senior. And so it happened. At the age of eighteen Schwab entered the employment of the Carnegie company as a junior in the drafting room.

Not for Schwab alone was the musical incident lucky. It was fortunate for Carnegie, who himself declares that Schwab was one of the two men to whom he owes his success, the other being Captain William R. Jones.

Jones was superintendent of the big plant at Brad-dock when Schwab entered the steel trade, and the lat-ter got his education in steel making from Captain Bill, as Jones was called. In 1880 a steel plant was built at Homestead by a new competitor of the Steel King and, getting into difficulties on account of labor trouble, was bought out by Carnegie a few years later. Schwab was selected for the job of superintendent of the newly acquired Homestead plant, a signal honor for a man of only twenty-four.

Schwab went to Homestead and the plant soon be-came the most paying of all the Carnegie properties.

When he arrived there the organization was in a deplorable condition. The long series of strikes that had caused the original owners to give up in despair had also resulted in ill feeling on the part of the workmen. But Schwab tackled the job with a smile and in a few months every man in Homestead swore by him. His sympathetic understanding, his personal charm had won them over.

Given a free hand by the "big boss" Schwab expanded the plant and rapidly increased its efficiency and earning power. In 1889, on the death of Jones, he returned to Braddock as the captain's successor and continued there until the breaking out of the great Homestead strike in 1892. Had Schwab still been in command at Homestead it is doubtful if the strike would have occurred. As it was Carnegie, as soon as he heard of the trouble, cabled that Schwab should take the helm at Homestead to steer the plant through the troubled seas and he remained there for some time after the strike. Then he was put in charge of both the Braddock and Homestead plants, the only time that one man ever managed two plants for Carnegie.

Then one day Carnegie told Schwab that it had been decided to make him vice-president of the Carnegie company, but Schwab replied:

"No, Mr. Carnegie, I am no good at carrying out another man's orders, and I should have to do that as vice-president. As superintendent I am boss of the plants I manage. I prefer to remain that way."

Next day Carnegie again sought out the young man: "Well, if you won't be vice-president, I suppose we'll have to make you president," he said; and so he did.

Once established in the highest position in the steel world, with the exception of the particular niche occupied by Carnegie, Schwab looked around for new worlds to conquer. He was satisfied that the mechanical end of the steel trade had been highly developed and systematized, department by department, but recognized

that the next step, one that must come sooner or later, was the integration of the different departments of steel making into one harmonious whole. His ideas for the development of the trade were along much the same lines as Gary's, and we have seen how they were carried out. In 1901, on the organization of the U. S. Steel Corporation, Schwab became its president, with a hundred thousand dollar salary and about fifteen millions of dollars of its stock.

But Schwab did not long remain president of the corporation. He had too long been accustomed to autocratic control, to being absolute boss, and he found a different state of affairs now. Bred in the old steel school he was out of sympathy with the new policies of the corporation as inaugurated by Gary and his adherents. While there was never any open breach he felt restricted and, to a man of his nature there was only one thing to do, resign, which he did. Another reason for his resignation was the fact that, almost from the time the big company was formed, he had been in poor health. So, in 1903, Schwab sailed for Europe intent on a long holiday and resolved to give up all business activities permanently. But this was not to be.

Some time before his actual resignation from the presidency of the Steel Corporation, Schwab, contemplating resignation, had purchased control of the Bethlehem Steel Co., a small concern located at a town of the same name in Pennsylvania, his intention being to develop this company. But he was persuaded to change his mind and sold out his Bethlehem stock, continuing for some time after with the Steel Corporation. Upon his return from Europe in 1904 he was asked by the organizers of a new shipbuilding company to subscribe to the stock of this concern and he suggested that the proposition would be much stronger if it controlled a steel company to ensure an economical steel supply. Eventually he himself for the second time bought the

entire capital issue of the Bethlehem company and turned it over to the shipbuilding company in exchange for bonds. Schwab did not take any part in the management of the company ; he was merely a bondholder. Later the venture failed and Schwab, as largest bondholder, found himself a third time in control of the Bethlehem company. Even now, still determined not to return to an active business life, he left the management of the company in the hands of the old organization, and it was not until about 1907 that he finally determined to assume direct charge of its affairs. He explains his resolution by saying that he felt that the step was absolutely necessary to conserve his investment and that of others, but it is not unlikely that a cogent reason was that he was tired of an inactive life and wanted to be in harness again.

When the shipbuilding company failed it was claimed that many of those who had invested in the securities of the company had done so because they thought that Schwab was personally the power behind its management, that they had relied on his reputation and ability for a return. It was easy for Schwab to prove that he was merely a bondholder of the company, but this did not satisfy him. He offered to pay to every stockholder who had invested after he, Schwab, had become interested in the company as a bondholder, every cent he had lost from his investment; and he did. "This cost me nearly five millions," he said.

When Schwab decided to go back into the battle of steel making he went at it in his usual enthusiastic way. He found the Bethlehem Steel Co. in a run down condition and he poured his personal wealth and all the money he could borrow into it. In about eight years he has spent some \$50,000,000 in extensions and improvements and the success of his work can be measured best by the simple statement that in the past two years the company's earnings on its common stock have averaged nearly 30 per cent. The company now em-

ploys 17,000 workmen, or half as many again as was the population of Bethlehem when Schwab assumed command there; the town's population has grown to 60,000 now. Schwab brought to America the contracts for the first battleships to be built in this country for a foreign nation.

Although he severed his connection with the Steel Corporation many years ago Schwab is still an ardent believer in the value of its securities and in its future. "It is a wonderful concern," he told me. "There isn't anything like it in the world, nor could its plants and organization be duplicated at any cost. The future will show how well, how securely, its foundations were laid."

GEORGE W. PERKINS.

George Walbridge Perkins, chairman of the Finance Committee of the U. S. Steel Corporation from shortly after its organization, or from November, 1901, to February, 1907, and still an active member of that committee and of its board of directors, was born in Chicago in January, 1862. Like many other men who have come out of the Middle West Perkins' advancement was the result of push and not of pull. He began life in a humble capacity, leaving common school at the age of fifteen to take a job as office boy at the Chicago office of the New York Life Insurance Co.

Later he became a bookkeeper, then solicitor, then manager of agencies and still later vice-president; finally he was elected chairman of the Finance Committee of the company at the comparatively youthful age of thirty-eight.

As manager of agencies and vice-president he had reorganized the company's selling methods entirely, this resulting in an enormous increase in business, and had inaugurated new and, until then unheard of, poli-

cies, chief of which was publicity, which had proved immensely profitable. These were the days when the managers of big business enterprises thought that the public had no right to know the intimate affairs of these companies. Perkins held that the best way to get the confidence of the public was to give it your own and he prevailed upon the trustees of the New York Life to publish annually a full list of the securities in which the policyholders' money was invested—an innovation that was heralded with a storm of ridicule by the managements of competing companies. But these same reports proved powerful weapons for business getting in the hands of the agents of the company and so great was the increase in the amount of insurance written by the New York Life following their publication that the practice of making these statements soon became general in the life insurance world.

During the later part of last century the life insurance companies of the United States bore a far from enviable reputation abroad and many countries had legislated against them. Perkins was determined that the New York Life should enjoy the privilege of doing business in Europe, and he journeyed to Europe three successive years, returning from each trip to report that the company had obtained the right to do business in a new field. What Perkins said to the European governments was, in effect: "The New York Life is ready to meet any fair demand for safeguarding the interests of its policyholders," and then he backed up that assertion. And by this he not only extended the company's field of operations but provided the company's agents with another strong selling argument.

This work, and the fact that he was instrumental in bringing to this country the first Russian loan ever placed here, brought the young insurance man to the notice of the financial world, and when, early in 1901, he had occasion to call on the late J. Pierpont Morgan

in connection with the great Palisade Park project, the banker pointed to a desk near his own and asked:

"How would you like to sit at that desk?"

Perkins refused at first to accept the offer of a partnership which almost any man would have considered a high honor. And it was some time after before Morgan persuaded him to become one of his partners. He was admitted to the firm of J. P. Morgan & Co. in 1901 and continued with the house of Morgan until 1911.

When the Steel Corporation was organized Perkins was elected a member of the board of directors, and shortly afterwards, on the resignation of Robert Bacon, became chairman of the Finance Committee. His experience with the New York Life had peculiarly fitted him for the position he now held, for Perkins was first and last an organizer—a worker with men, not with money. Although a member of the largest private banking house of the country he was not a banker. "In the ten years I was with Morgan's I never went behind the counter or examined into the book-keeping end of the business," he told me; "my job was to assist in the physical organization of the great industrial combines which Mr. Morgan was then engaged in financing."

Like Gary, head of the Steel Corporation, Perkins looked rather to the ultimate results of an action or a policy than to its immediate effects. Like Gary, moreover, he was a firm believer in corporation publicity and in the square deal to the worker, so it was natural that he should have favored these ideas in the corporation.

Perkins was particularly identified with the corporation's bond conversion plan, explained in an earlier chapter. It was his idea. When the subject of raising more working capital came up after the organization of the big company it was he who suggested a scheme by which the cost of securing the new capital needed

would be paid back in a few years by savings in interest charges, one which would also eventually reduce the corporation's fixed charges materially. He believed that the corporation should build for the future and that it was a matter of small moment if the immediate cost of a course of action were high if the ultimate results were towards economy. And when the plan was opposed in the courts by some of the stockholders it was an affidavit presented by Perkins that did more than anything else to induce a favorable decision and to make it possible to proceed with the conversion.

In 1911 Perkins retired from the Morgan firm, at the same time retiring from all active business except his directorship in various companies, chief among which were the Steel Corporation and the International Harvester Co., of which latter he was chairman of the Finance Committee. Since that time he has devoted the greater part of his energies to semi-public work.

He has been especially interested in the problems growing out of the relationship between capital and labor. He was prominent in the profit sharing plan that is now in vogue in the Steel Corporation and which has been so largely followed by many other industrial concerns in the last ten years. He has also given much of his time to spreading the gospel of co-operation in the business world. As long ago as February, 1908, he began making public addresses on the necessity for such co-operation, claiming that the many modern improvements in intercommunication and the enlightenment of the people through our broad system of education have brought us to a point where the old destructive competitive methods in business must be abandoned and a more humane and enlightened order of things take their place. He has delivered many addresses throughout the country on these two favorite themes, profit sharing and co-operation.

Perkins is not a philanthropist, in the ordinarily accepted use of the word. Presumably he gives a por-

tion of his large income to charitable societies and works. But if he does it is quietly. But to work for the betterment of the lot of the laborer or the welfare of the community he gives himself, his time and his energy.

It is not unnatural that his course in this respect should be viewed with suspicion by many; that his motives should be called into question. For the spectacle of a successful business man breaking off apparently at the zenith of his career and in the prime of his life to give himself to pursuits in which money making had no part is unusual. I do not pretend to judge his motives. Let him speak for himself:

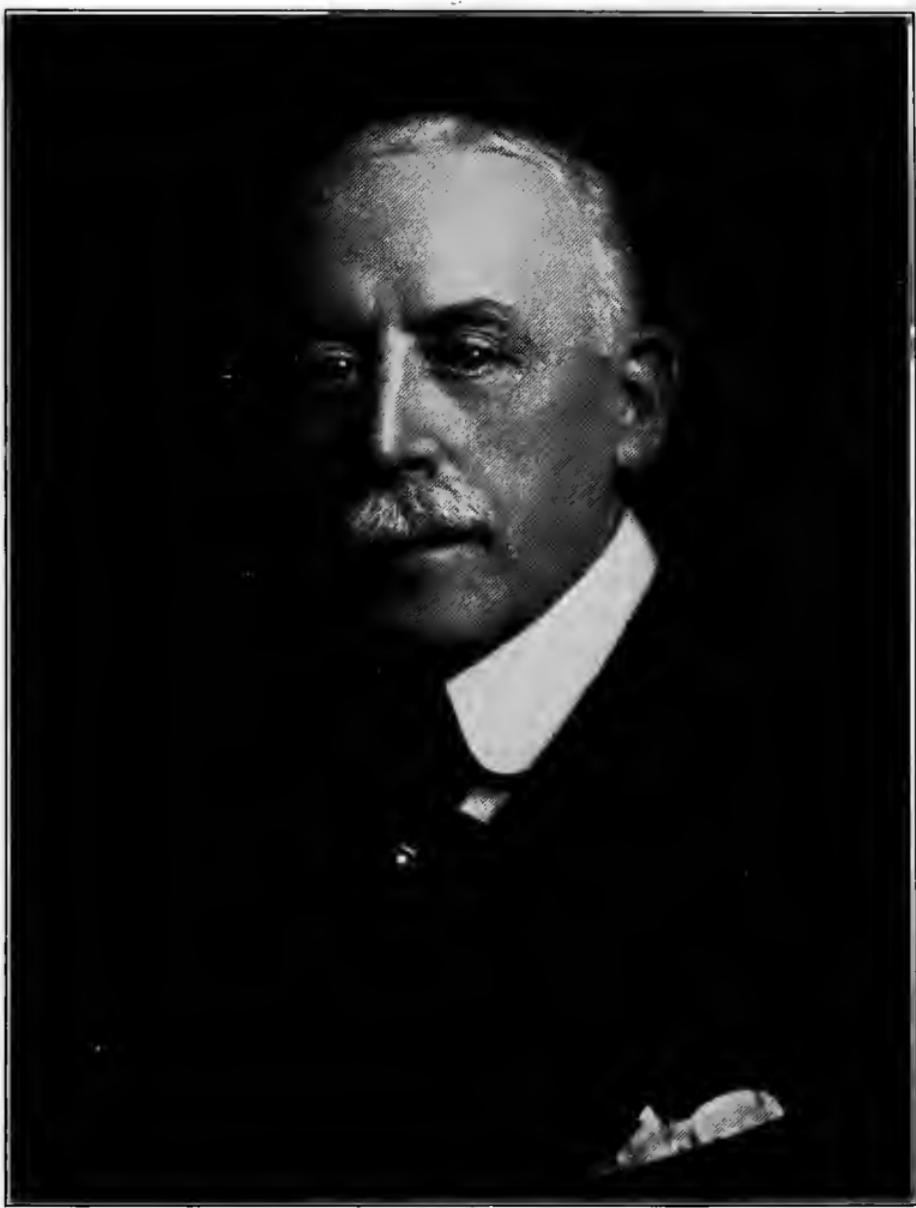
"My father," he told me, "was deeply interested in social service and settlement work, and, as a boy, my Sundays were spent not in merely going to Sunday school, but in rounding up the poor boys of the neighborhood for classes, etc. Later, my experience selling life insurance brought me closely in touch with the needs of the people and even when I became affiliated with the Morgan firm my work as an organizer was the human end of the job. My inheritance from my father and my own life work has kept me in touch with 'all things human.' Isn't it only natural that I should take a deep interest in what you might call human work?

"I don't claim credit for this. In fact, I don't see how, with my experience, it could have been otherwise. It became, if you will, my hobby, which I gratified as soon as I was able to.

"When a man approaches fifty years of age and finds he has enough money to meet his wants for the rest of his life and take care of those for whom he should naturally provide, the question that presents itself is: 'What am I going to do with the remainder of my life? Whatever I do in the way of work will have to be left behind me in the world. Shall I work to accumulate more money and leave that, or shall I work

for certain definite objects that I believe are worth while, and leave the results of that work when I die?" I simply chose the latter course."

The reader may form his own judgment. Personally, I believe that Perkins is entirely sincere in his interest in the work he has undertaken.



JAMES A. FARRELL

CHAPTER VI

DEVELOPMENT OF THE EXPORT TRADE.

IN the office of James A. Farrell, president of the United States Steel Corporation, at 71 Broadway, New York, stands a pedestal supporting a great globe. It is a fitting place, for the business of the great steel company extends to practically every part of the known world, "from China to Peru;" still more fitting because Farrell's name is indissolubly connected with the development and extension of that business in the markets of the world.

When the idea of a big steel combine was first conceived by Judge Gary, one of the chief considerations in his mind was that such a vast organization, and such an organization alone, would have immense potentialities for successful world competition with the manufacturers of the other great steel producing nations—Great Britain, Germany and Belgium. The same thought was forcibly brought out by Chas. M. Schwab at the historic Simmons dinner, and it was one of the most powerful factors in influencing J. Pierpont Morgan to undertake the financing of the giant steel merger. In the following pages an effort will be made to show how this end was accomplished, how this hoped for world trade was built up in the face of many obstacles.

Properly speaking, the story of the development of the corporation's export business did not begin until about three years after the big company was formed. Questions of internal organization were naturally paramount in the early part of the Steel Corporation's existence, and these first three years were taken up with

problems near home—physical organization, co-ordination, integration, economy, efficiency, in a word the welding into a harmonious whole of the corporate organizations and properties merged. Therefore it was not until the early part of 1903, when internal problems had been gotten out of the way, that the question of securing export business on a more systematic and profitable basis was actively considered and steps were taken towards the formation of an organization with a definite export policy. To do this it was necessary to bring together, to consolidate, the export offices and organizations of the several subsidiary companies which had till that time been maintained on a practically independent basis. This was done by creating a new company, the United States Steel Products Export Co. (the "Export" was later dropped from the title), late in 1903. The first organized efforts of the corporation to obtain export business may thus be said to have begun with the calendar year 1904.

How beneficial was this co-ordination of the export trade of the various constituent companies under one selling agency or company is best illustrated by the fact that the cost of doing export business has been reduced from about 8 per cent., which it was when each company sold independently, to slightly under 1 per cent., the average of recent years. As the corporation's foreign sales have exceeded \$90,000,000 in one year this meant an annual saving of over \$6,000,000 in the year's business, or about enough to pay a quarterly dividend on the preferred stock. The lower selling cost also meant that the position of the corporation in bidding against foreign competition was that much improved, and to it must be attributed largely the great increase in the "Steel Trust's" export business of recent years.

The choice for the presidency of the new export organization fell upon James A. Farrell. He was the man fitted pre-eminently for the job, and his selection was

more or less inevitable. It is generally recognized that no individual in the steel industry possesses so wide a knowledge of the extent, character and requirements of the foreign export trade as he does; no individual has done more to further that trade than he. In 1903, when he became president of the United States Steel Products Export Co. the country's foreign trade in iron and steel had dropped to a little over 300,000 tons; in 1912 they were nearly 3,000,000 tons.

For many years, during which there had been little disposition on the part of the American steel makers to seriously cultivate markets abroad, Farrell's entire time and energy had been devoted to this end. Being a man with that genius that is "an infinite capacity for taking pains," he had developed a thorough knowledge of competitive conditions affecting steel in every part of the earth's surface where the metal was sold. He had become, what he still is, a walking encyclopedia on all matters relating to the exportation of steel, carrying in his head details of freight rates, steamship facilities, duties and so on at and between all important and many unimportant points. His facility in reeling off these facts and figures, as displayed when he was called as a witness for the defense in the Federal suit, now pending, for the dissolution of the Steel Corporation, earned him the soubriquet of "the man with the head full of figures," a not inept title.

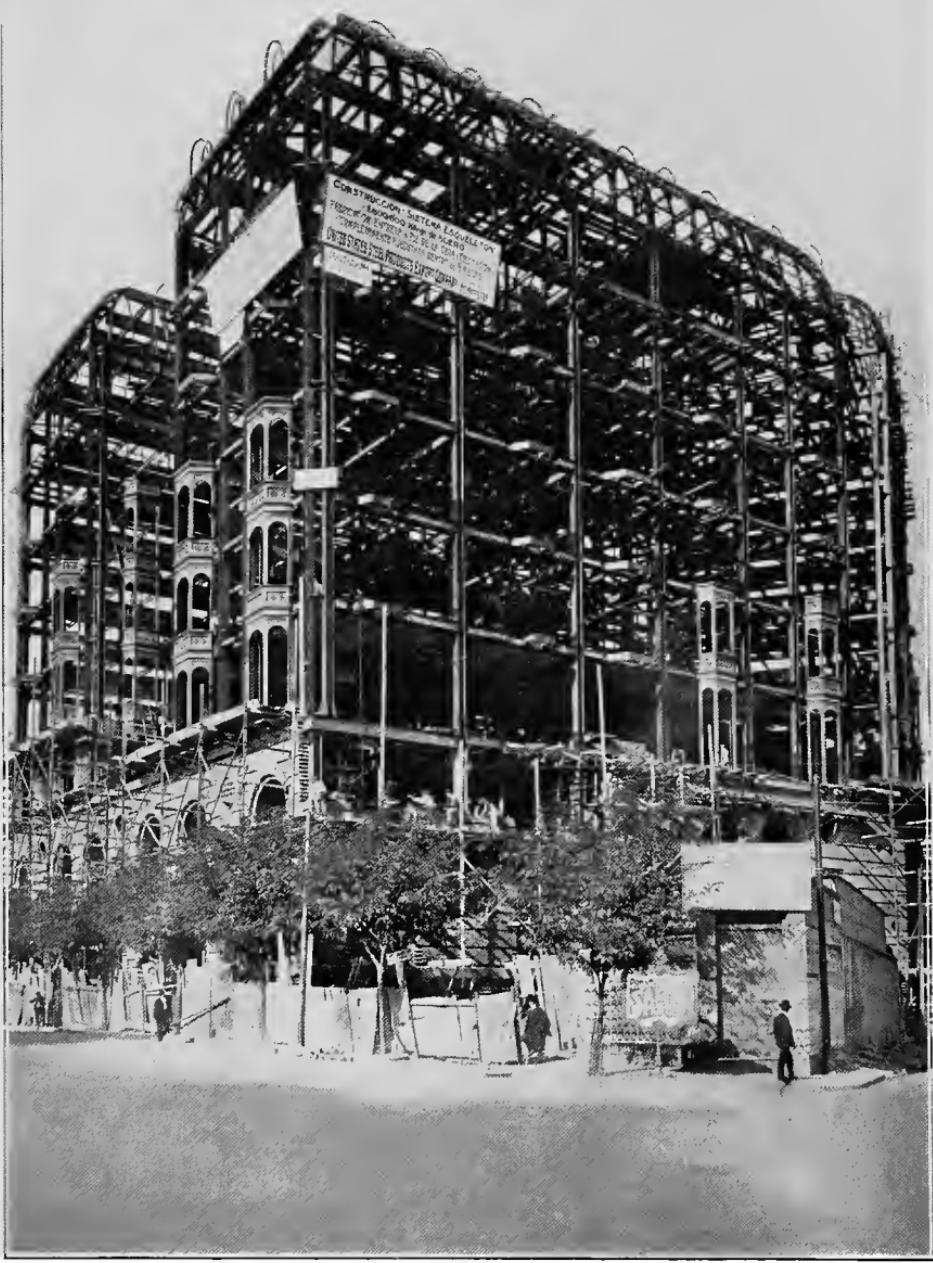
And indeed, no more striking exposition of the wide scope of the export market for American steel which has been developed within the past decade has ever been given than that embraced in his testimony on the occasion mentioned. His statement, which, incidentally, consumed nine days, was a remarkable story of business achievement. He showed that the exports of the Steel Corporation were of a widely miscellaneous character and equally wide distribution, ranging from cotton ties for Egypt to highway bridges for Iceland; from wire products for the Holy Land to light rails and

pipe for the diamond mines of the Transvaal; from galvanized sheets for the houses of the Borneo natives to the Steel skeleton work for the large and beautiful buildings of Buenos Ayres. "From Greenland's icy mountains to India's coral strand."

Farrell is one of the men of which the steel trade furnishes so many and so striking examples, men who have worked their way up from the foot of the ladder to the highest places in the industrial and commercial world. Born at New Haven, Conn., on February 15, 1863, he started his career as a laborer in a wire mill in his home town while he was yet in his teens—at the age of fifteen and a half. But it was not long before he was doing skilled work, and from this it was an easy step to a more responsible position.

While he had made good in the shops Farrell's ability ran rather to the selling than to the manufacturing end of the industry. He was a merchant, a salesman, above all things, and he was soon given an opportunity to show what he could do in this line when he was sent on the road for the Pittsburgh Wire Co., with which concern he had become connected. Later, when that company was absorbed by the American Steel & Wire Co., Farrell won his way to the sales management, with such pronounced success that when the company decided to enter the foreign field he was offered and accepted the post of foreign sales agent. When the Steel Corporation later took over the American Steel & Wire Co. he acted in the same capacity for the big merger and finally, upon the organization of the Steel Products Company, he was made president of that concern. How satisfactorily he filled the position was shown by his election to the presidency of the parent corporation upon the resignation of William Ellis Corey. Farrell's elevation to the presidency of the Steel Corporation took place in January, 1911.

Although no longer in direct charge of the management of the Steel Products Co. Farrell still takes a keen



PLAZA HOTEL AT BUENOS AYRES, FIRST STEEL SKELETON BUILDING IN THAT CITY.
MADE OF 1,600 TONS OF UNITED STATES STEEL

personal interest in all that concerns the structure of foreign business which he helped so materially to erect. Quiet and unassuming, he yet bears a name for thoroughness and efficiency. He throws himself wholeheartedly into his work, giving to it absolute loyalty and untiring energy. He might, indeed, be called the man who never rests. His usual working day is fourteen hours long. A few years ago he took a well deserved vacation in Europe, but brought back with him a big sheaf of new orders which he had spent his holiday in securing. At first glance Farrell impresses one as "pure business." His manner suggests impatience of waste of time or language, and he seldom makes even an unnecessary gesture. His appearance is that of the cold, unsentimental business man, but his looks do him an injustice, for he is, if one is fortunate enough to pierce beneath the surface, a man of broad and deep sympathies and rare delicacy and tact.

Eugene P. Thomas, who had assisted Farrell since 1906 in the building up of a world trade for the corporation, succeeded him as head of the Steel Products Company in 1911. Thomas was born at Atlanta, Ga., May 11, 1876, and after a brief experience in the newspaper field entered the steel trade, starting with the Lorain Steel Co. (then the Johnson Co.) in 1892.

Thomas was another of the pioneers of the foreign trade in steel, having been sent to England in 1899. Two years later he became Assistant Foreign Sales Manager of the Lorain Company, and on the formation of the U. S. Steel Products Export Co. he headed one of the departments of that company. Before he had attained his thirty-fifth year he was at the head of the greatest export organization of the United States.

Up to the time of the formation of the United States Steel Corporation—indeed, until the export company was formed—there had been little systematic or sustained effort on the part of the American steel manufacturers to capture foreign trade. Such campaigns for world business as

had been undertaken were nearly always spasmodic in their nature and had not been conducted in such a manner as to give the steel maker of this country a good name abroad. The people of the steel consuming countries—as distinct from those producing their own steel—preferred to deal with German, British or Belgian mills, and the reasons for this were obvious. The great steel producing countries of the old world are unable to consume more than a comparatively small proportion of the output of their mills; internal or home consumption is small. Hence the exportation of the greater part of the steel these countries make is a pressing necessity and every effort is bent on securing foreign outlets for their product, on cultivating world trade. The steel maker of the United States, on the other hand, has always had, except in times of severe depression, an excellent market at home, ready to hand, one that can absorb all the steel he turns out. The country has been building up and expanding. Steel has been and is needed for railroads, skyscrapers, factory buildings, farm implements, automobiles, and a thousand and one other purposes. The result of this has been that our steel manufacturers have had no particular desire to seek foreign business in normal times, with its attendant risks and expenses, long credits and other drawbacks. They were at one time content to leave the foreign markets to European exploitation and only to enter these markets when dull business at home forced them to seek some new outlet. In the earlier days of the industry American steel, at such periods, was thrown on foreign markets at prices often below productive costs, the loss being considered preferable to the disruption of the company organization which a continuous decline in sales would have brought about. This process was commonly known as “dumping,” and it was calculated to earn the bitter hostility of foreign competitors who saw their carefully cultivated markets taken away from them by cut-throat competi-

tion. A wave of returning prosperity at home would again cause indifference to and independence of foreign trade on the part of our steel producers, an attitude that naturally did not work to create good will among foreign consumers. One of the results of this state of affairs was uneven and sporadic exports; another was that American steel had no friends abroad.

It has often been charged against our manufacturers that, although professing to be anxious to sell their goods in all markets, they are unwilling to meet the requirements of the foreign buyer, taking the "if they don't like our goods let them go elsewhere" attitude. This gives the European competitor, who goes on the principle that the buyer is always in the right, an incalculable advantage. The basis for this disposition on the part of American manufacturers lies in the same factors as his indifference to foreign trade generally, namely the vast home markets. His competitor abroad, having perforce to sell half or more of his output in other than home markets, works to find out the needs of possible buyers everywhere, and then sets out to meet these needs. And he gets the business.

But the Steel Corporation, having taken up the export trade as a permanent part of its business, has accepted and adopted the attitude of its European competitors that the consumer, no matter where he is, must get his goods as he wants them and not as the manufacturer sees fit to give them to him. To do this it has become necessary to manufacture a number of articles, or types of product, for which there is no call at home, to adopt the weights and measures of each country in dealings with that country and in other ways to make it convenient for the purchaser abroad to order his requirements from the corporation in the certainty that his order will be just as welcome as it would be to a British or German mill, and that it will get the same care and attention. The corporation has

even found it necessary, in some instances, to devote mills to making nothing but export products.

Wire goods constitute an important export item, and of the 11,000 and more different wire products made by the American Steel & Wire Co. some 1,800 are manufactured for foreign trade, many of these lines not being sold in the United States at all. For the countries in South America lying below the Equator what is known as varnished wire is made; for certain other tropical countries wire and fencing must be extra heavily coated with spelter to withstand rust; and so forth.

The carpenter in Australia will not use the ordinary round wire nail so commonly employed here. He demands a nail of oval section, and gets it. In another part of the world a square nail is favored. You might argue with the Australian workman till Doomsday that the round nail is "just as good" as the oval, but he is prejudiced in favor of the oval and will buy the nails he wants from Europe if America won't supply them. So the corporation makes oval nails, nails to suit every taste and fancy. It does not attempt to argue about tastes, it merely accepts them as they are and endeavors to satisfy them—and this is the royal road to sales and profits.

Nails, in the United States, are put up in kegs each containing 100 lbs. For the Japanese trade picul kegs, holding 133 lbs. of nails are demanded, while the Hindoo trader, sitting bare-legged and beturbanned before his booth in the bazaars of Bombay or Calcutta, offers the passerby small packages each of seven pounds of nails—put up by the American Steel & Wire Co.

It was a big job that Farrell had handed to him when he was put in charge of the building up of foreign markets for the big corporation. For not only did the varying conditions affecting sales in the different parts of the world have to be studied, but there were other obstacles to contend with, handicaps, by the way, which it would hardly have been possible to overcome with-

out the backing of the power and prestige of the greatest of corporations.

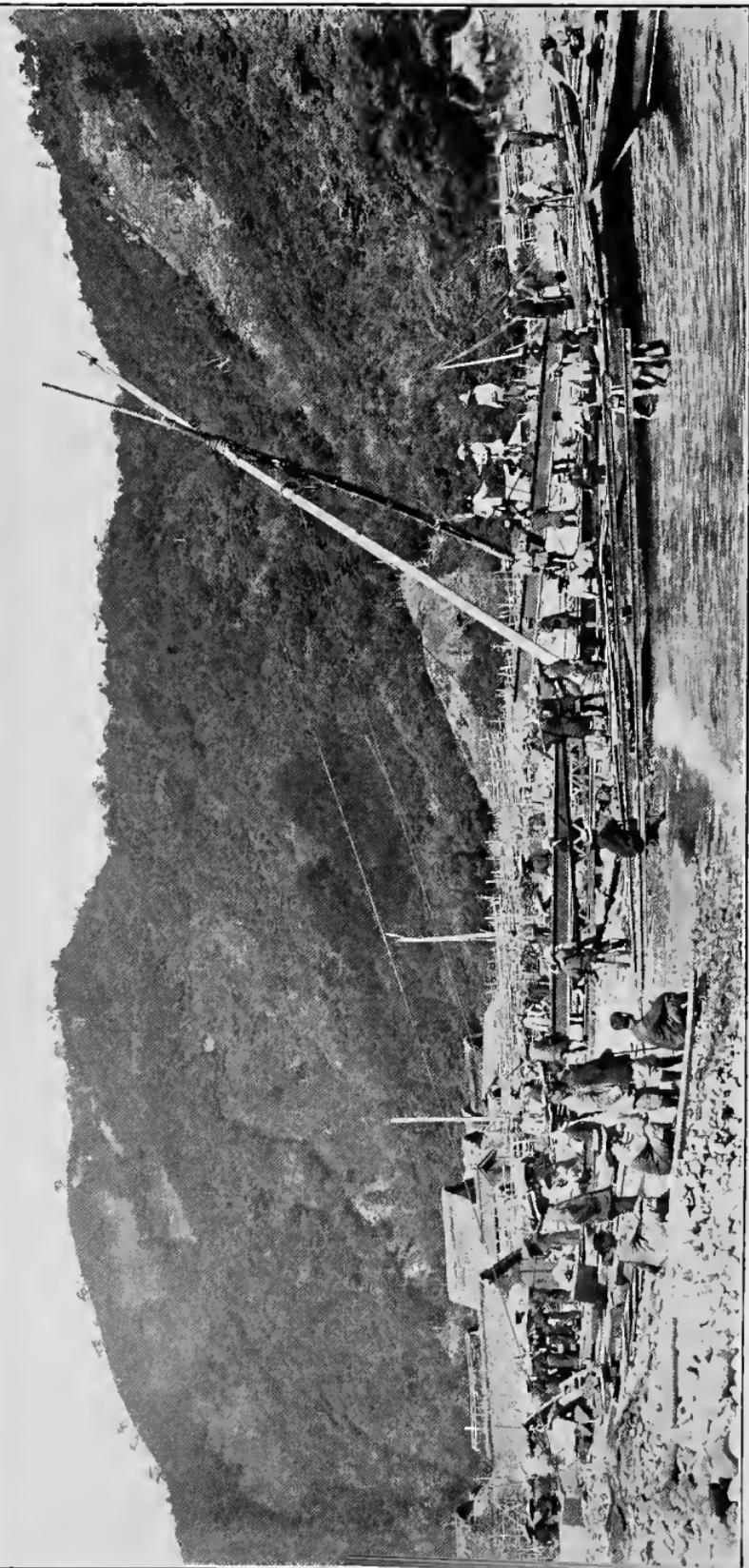
One was the question of prices. The high wages paid to American labor as compared with labor compensation in Great Britain, Germany or Belgium, combined with the fact that these countries lent every assistance to their manufacturers in increasing the world business—particularly Germany, which encouraged the artificial keeping up of home prices and the reduction of export prices, with the object of extending the nation's foreign commerce—rendered it impossible for American manufacturers to obtain as profitable a price in competition with Europe as they did in the domestic field. Further, as the corporation entered many markets to find foreign competitors already firmly established therein, it was necessary to offer buyers material price concessions to get business at all in the first place.

Such price cuts were nearly always essential to give the Steel Products company its first foothold in the desired markets, to force the entering wedge. The fact that the corporation has sold abroad cheaper than at home has been used as a weapon against it by its critics. Apart from the fact that its doing so afforded labor to many American workers and thus reduced unemployment, it seems plain that a seller must make his price to suit the market in which he is operating, that had such price concessions not been made the Steel Corporation's export business would never have shown the remarkable growth it has. Europe would have undersold it in all markets. However, the corporation refused to follow anything like the old dumping policy, often refusing otherwise very desirable business on the single issue of price.

Besides the preference, natural on the part of the buyers, for well-known and long-established goods and the close connection of foreign manufacturers antagonistic to a new competitor in the field, the corporation had other difficulties to overcome. These included banking

facilities in the various countries opposed to business with America; cheaper freights and better steamer accommodation from foreign ports than were available from the United States; preferential duties, and so on. For years the big company has persistently contended against these obstacles, gradually working up to its present position where its products have been introduced and their quality recognized and business can be secured without concessions in price under those of older competitors. For several years past the prices secured on foreign sales have been practically the same as those obtained on domestic business, more in some products, less in others. They average a little higher at present. In 1911, for instance, the average price at the mill on rails exported was \$27.32, compared with \$28 in the home trade. Rail exports for the year were valued at \$11,377,000. The concession of 68c. a ton seems a small one to pay for so large a volume of business.

The Steel Products company has not sought merely to increase the gross tonnage of its business. In the years preceding the organization of the Steel Corporation the steel exports of this country consisted very largely of the cruder and less profitable materials, particularly iron ore, pig iron, billets and steel bars. It will readily be seen that the most important business is that which shows the greatest profit, that in finished rather than in raw or semi-finished material, the finished product meaning not alone larger profits to the shipper, but more employment and a higher rate of remuneration to labor. The higher degree of finish to the products manufactured the greater the wages paid to the worker. In exporting iron ore, pig iron, scrap and cast iron, only the cheapest materials are involved, the lowest paid labor engaged. It is a question whether such exports, particularly those of iron ore and pig iron, are of any real benefit to the country as they involve the sacrifice of natural resources usually at such unremunerative prices that from the standpoint of conservation it might



TRANSPORTING BRIDGE MATERIAL FROM THE SEABOARD TO THE INTERIOR OF CHINA. IT IS A HIGHWAY BRIDGE OVER THE YELLOW RIVER, CONSISTING OF FIVE THROUGH-PIN SPANS 150 FEET 9 INCHES EACH, WITH ABOUT 20-FOOT ROADWAY. THE WEIGHT OF THE MATERIAL IS 222 TONS

appear wiser, to economists, to withhold these reserves for domestic rather than foreign consumption. And the policy of the corporation in developing its world trade has been in harmony with this thought; its efforts have been consistently to decrease the volume of its foreign sales of the less worked up materials and to increase sales of the more highly finished products.

In many years no sales of pig iron at all were made. In 1912, the record export period, the corporation shipped abroad 2,223,570 tons of finished steel products and only 46,503 tons of pig iron, ingots and scrap. In the following year the comparison was 1,756,328 tons finished to 56,104 tons of semi-finished products. In the year 1904, immediately following the organization of the export company, foreign shipments were 1,001,716 tons, of a gross value of \$27,263,915, an average of \$27.22 per ton, f.o.b. In 1912 the tonnage exported was 2,243,138, of an average value of \$34.24 a ton, or a total value of \$76,812,253. In the period indicated there had been an increase of 123.8 per cent. in tonnage, an increase of 181.7 per cent. in total value and a gain of 25.8 per cent. in the average price, or over \$7 a ton. Incidentally, the average price received on the big company's domestic business in 1904 was \$41.34 a ton, against \$36.53 a ton in 1912, or a decrease of 11.6 per cent., or nearly \$5 a ton for the period. Part of this gain in export prices was due to the higher classes of goods shipped and part to the gradual establishment of the corporation's products in the world markets and in the confidence of consumers in those markets.

How important has been the part played by the U. S. Steel Corporation, through the U. S. Steel Products Co., in developing the iron and steel exports of this country is shown by the following comparison. The tonnages given for the United States include only iron and steel exports proper, and not machinery, etc., not manufactured by the corporation:

Year.	United States. Tons.	U. S. Steel Corporation. Tons.
1904	1,167,710	1,123,322
*1905	1,010,255	1,052,259
1906	1,325,740	1,258,370
1907	1,301,979	1,099,934
1908	964,242	857,860
1909	1,243,584	1,120,443
1910	1,535,689	1,423,070
1911	2,183,662	1,918,387
1912	2,941,684	2,537,436
1913	2,737,571	1,813,072
1914	2,097,549	1,103,483

Between 1904 and 1912 the corporation's exports increased 1,414,113 tons, and the exports of the country 1,773,974 tons, the corporation's increase in shipments accounting for approximately 80 per cent. of the total gain shown by the United States.

It is only fair to point out that the exports of the United States for 1900, the year before the corporation was organized, are given as 1,154,284 tons, and in 1901 942,689 tons, while a marked decrease was reported in 1902 and 1903, the shipments abroad for the two years being respectively 372,399 and 326,590 tons respectively. These figures include a vast number of items such as the subsidiaries of the corporation do not manufacture or such as they do not now export. Exact reports of the companies now in the Steel Corporation in 1901 are not available, but it can be stated that the iron and steel exports for the year of such products as they make and ship abroad were only 291,000 tons. In 1902 the corporation's shipments were slightly over 300,000 net tons.

There is hardly a part of the known globe where the agents and products of the Steel Corporation do not penetrate. In some countries a staff of skilled workmen is maintained. In Buenos Ayres, for instance, the corporation has its own force of erectors and the steel frames of nearly if not all the handsome and modern buildings of the Argentine Capital have been put together by the "Steel Trust's" riggers, the men whom

*Apparent discrepancy probably due to the fact that shipments from the mill in December did not leave the country until January of 1906.

Farrell has described as working "with one hand for their lives and the other for their jobs."

The bulk of the steel used in the construction of the Panama Canal was supplied by the Steel Corporation, about 175,000 tons in all.

Some of the principal points of export, with the products they demand chiefly, are: Iceland, wire products and fabricated steel; Java, Sumatra and Borneo, oil piping and galvanized sheets; Bombay, angles, sheets, wire products; Argentina, fabricated steel and a general line.

To South Africa the corporation sends pipe and light rails for the diamond mines; to the countries on the Pacific coast of South America, sheets for roofing, wire and railway material; to Patagonia, railway material; to Mexico, practically every product made; to Canada, the same; to Northern Africa, wire and sheets; to Egypt, wire and cotton ties.

China is a great market for defective material. The careful celestial, abhorrent of waste, takes wire rods and sheets of poor quality, even old horseshoes, and makes these over into razors and a number of other articles, many of which, no doubt, are sent back to America.

To Australia are shipped rails and bridge material, pipe and general lines; to Austria, wire products and pipe; to Syria and the Holy Land, small nails for fastening date boxes, wire fence and pipe; to Rangoon, pipe, nails, fence and sheets; to the West Indies, a general line; to Roumania, pipe; to Central America, wire, galvanized iron, tin plate, light rails, pipe and bridge material; to Formosa, light rails; to Greece, pipe, wire sheets, etc.

In German South West Africa, where the high protective tariff in favor of Germany puts it at an immense disadvantage, the corporation has managed to find a market for some of its output. This country is a great producer of palm oil, much used in the tin plate in-

dustry, and the corporation does a trading business here, exchanging steel products for the oil, of which it uses enormous quantities.

Altogether the Steel Corporation has 268 agencies in over 60 different countries. These countries are: Argentina, Austria, Australia, Belgium, Brazil, British India, Grenada, Bulgaria, Canada, Salvador, Panama, British Honduras, Guatemala, Honduras, Costa Rica, Chile, China, Colombia, Cuba, Cyprus, Denmark, Dutch East Indies, Dominican Republic, England, Ecuador, Egypt, Formosa, France, German South West Africa, Greece, Haiti, Hawaiian Islands, Holland, India, Italy, Jamaica, Japan, Korea, Mauritius, Mexico, Newfoundland, New Zealand, Nicaragua, Norway, Nova Scotia, Peru, Philippine Islands, Paraguay, Porto Rico, Portugal, Roumania, South Africa, South Pacific Islands, Spain, Sweden, Scotland, Tasmania, Turkey in Asia, Turkey in Europe, Trinidad, Uruguay and Venezuela.

Although the Steel Products company avails itself of the facilities for shipping offered by the many steamship lines plying between American and foreign ports, the enormous expansion of its export trade has forced it to maintain a fair sized ocean going fleet of its own. The corporation owns nine vessels and usually has from 35 to 40 ships under charter carrying its products all over the world. These vessels, owned or chartered, touch at many little known ports, harbors the waters of which are never disturbed by the prows of the regular liners, and at these places they put off loads of rails, tools and so on, instruments with which the pioneers of civilization, like railway builders, are extending its march into untrodden lands.

All the ships owned by the corporation fly the Stars and Stripes, having been transferred to American registry immediately upon the passage of the Ship Registry Bill last year. These vessels, all steamers, are:

U. S. STEEL STEAMER "SANTA ROSALIA," IN A STORM OFF CAPE PILAR



Steamer.	Tons, Net Register.
Buenaventura	3,064
Bantu	2,661
San Francisco	3,164
Craster Hall	2,758
Howick Hall	3,094
Santa Rosalia	3,488
Kentra	3,021
Crofton Hall	3,661
Charlton Hall	2,999
Total	30,910

The shipping of steel to certain points lacking a regular service forces the employment of expedients to reduce the attendant costs in many cases. To give one instance: a fleet of six vessels is kept working especially for trade with the East and West coast of South America and Western Canada. These vessels, sailing from the Atlantic seaboard, make calls at various ports in Argentina, Chile, Peru and up to British Columbia, where they find themselves empty and without opportunity for picking up a cargo for the return trip. To save the expense of bringing them back in ballast cargoes are taken for France or, maybe, for Wales, and either the shorter trip across the Atlantic is made under ballast or another cargo is taken on for a home port. The total trip covers some 35,000 to 40,000 miles and takes about nine months. This time and mileage has been materially reduced in some instances through the opening of the Panama Canal, saving the long journey through Magellan Straits.

It is interesting to note that on one occasion one of these vessels, looking for a return cargo at Swansea, received a big shipment of tin plate which the Welsh mills had sold to American consumers in competition with the Steel Corporation.

The shipping of steel to the less known parts of the world involves difficulties never encountered in doing business at home. The export men have become accustomed to fighting these handicaps and, unusual as they

may seem to one accustomed to doing business with the aid of the efficient methods of civilization, they regard them as being all in the day's work, seldom worthy even of mention.

On one occasion the Steel Products Co. shipped a number of boilers to a harbor on the West Coast of South America, where the arrival of a steamer was a rarity and facilities for landing cargo were conspicuous by their absence. In the absence of any better means of getting the boilers ashore they were plugged up at both ends and hoisted overboard, floating on the waves to the sandy beach. This novel method of delivery caused a dearth of labor in the vicinity, as the natives, at the sight of the huge steel cylinders leaping from the waves after their dive and rushing ashore on the tide, decided that they were strange and fearsome monsters of the deep and made for the woods, where they remained for several days before they could be induced to return and carry the boilers to the point of destination.

When, some two years ago, the Steel Corporation supplied the rails for the first line ever built to Buena-ventura, Colombia, a similar situation in regard to unloading facilities was encountered. So each rail had to be sent ashore separately on the little native dugout canoes, and it was only the skill of the natives in handling their frail barks with their unwieldy cargoes that prevented a large part of the shipment finding a resting place at the bottom of the harbor.

The American Bridge Co. has erected a number of bridges in the Far East. In China the steel for these bridges is hauled or rafted up the rivers in the dry season and, if the rains arrive before the final destination is reached, the steel is left on the river bed and the journey upstream resumed months after on the subsidence of the flood.

Besides the large fleet owned or chartered by the Steel Products Company, at least two steamship lines,

one to the Far East and the other to the Levant, have been started by independent interests as a result of the trade which the Steel Corporation has built up in these parts. Yet all these carry only a comparatively small amount of the total tonnage shipped abroad by the big company. How vital to American commerce is the corporation's development of foreign business is shown by the fact that its cargoes constitute an important percentage of all the heavy cargo leaving American ports. More than half this "weight cargo," it is claimed, is shipped by the Steel Products Co., the Standard Oil Co., and the International Harvester Co.

The benefit of large exports lies largely in its effects on labor in the exporting country. The corporation's effort has been to find a regular market in foreign countries for 20 per cent. of its output. This level has never actually been reached in normal times (on account of the European war exports are running about 33 per cent. of the output at the time of writing), but in 1912, the record year, shipments to customers abroad were nearly 18 per cent. of the total shipments of finished steel made by the corporation's mills. As the "Steel Trust" gave employment to an average of 221,000 men during that year this meant that some 39,000 workers were being employed on material destined for export, or that 18 per cent. of the corporation's payroll of \$190,000,000, or \$34,000,000, was being paid in wages to American labor by foreign consumers.

In the final analysis this figure would be increased, as the corporation encourages and assists companies manufacturing its products into such lines as machinery, cars, etc., to expand their export business by quoting them lower prices on steel to be exported after manufacture. This re-export business, as it is called, gives work to perhaps 10 per cent. more of the United States Steel Corporation's total employees.

The building up of the vast export sales organization maintained by the corporation has been a Herculean

task, but if the volume of sales and the steady gain in prices is any indication, the work has been well worth while. By establishing its name and its product all over the world the corporation has not only added to its profits and to its markets, but by providing these markets it has helped to relieve the pressure of over-production which always accompanies times of depression in the industry, and by so doing has conferred a great benefit on the steel trade as a whole. Every ton of steel sent abroad, said a steel man, means just that much relief to the trade at home in dull times.



BESSEMER INGOTS

CHAPTER VII

THE SPIRIT OF THE CORPORATION.

SOME months ago I had the opportunity to visit the mines and plants of the various companies making up the great Steel Corporation. I had expected to be, and was, impressed by the various processes whereby iron ore is converted into steel rails, wire, nails, tin-plate, and a vast number of other products; by the monster machines used for loading and unloading ore, the tall furnaces, pools of molten iron, the great rolls through which the glowing metal is passed on its way to becoming a finished merchantable article and the thousand and one other sights of the steel-making industry.

But after two weeks spent in the tour the one impression that printed itself ineradicably on my mind above all others concerned the manner in which the vast human machinery that is the corporation was handled, the organization that made it possible for an army of a quarter of a million men to work in absolute harmony and to one end. In a word, the spirit of the corporation.

The entire organization is permeated with "the Steel Corporation spirit." From Judge Gary, Chairman and head of the corporation, and James A. Farrell, its president, who directs the manufacturing and commercial operations, down through the heads of the various constituent companies and so further through the other officials, through those whom we may call the non-commisioned officers, the foremen and mine captains, and finally among the men, the skilled workers and common laborers, there is to be found that one universal sentiment of loyalty, of personal interest in the fortunes of the big company and the will on the part of each man to give the best in him for the general result.

Naturally, I was anxious to discover the why of this spirit, how it was possible to leaven so great a mass of men of different nationalities and degrees of intelligence with it. And I believe I have found the answer. And I did not get it from the men higher up, although they all tried to explain and furnish reasons. No, I got it from the rank and file, the men burrowing in the mines or handling the hot steel.

"Why is it," I asked them, "that you, who seem to be only so many cogs in a vast machine helping to turn some one particular wheel, appear to feel yourselves an integral part of that machine? Why is it that you seem to consider the corporation's welfare your own, its difficulties your difficulties?"

And the answer of all, though variously expressed, can be summed up in the reply of one man, who said:

"Because, in the work of the Steel Corporation, the man who gives gets. The men who are in the higher positions, who are drawing big salaries, all worked their own way to the top. Several of the men holding important jobs I knew when they held little ones, and in every case I was satisfied that the advancement they got they deserved. I don't believe there is a single official of the corporation, or any of its subsidiary companies, who got his job through pull. Hard work is the only key to success with us, and it is a sure one. In short, I feel bound to give the corporation a square deal because I know it will give me a square deal."

The square deal—that is the secret of the corporation spirit. The desire for justice, for recognition of full and fair service, is deep grounded in every man, and the Steel Corporation management, by giving each worker the assurance that he will get just what is his due, has secured for itself the entire co-operation of its workers and a resultant organization that probably could not be equalled elsewhere in the industrial world.

No position in the corporation, however high or responsible, is beyond the reach of any employee who proves

himself big enough for it. Farrell, now president, started as a laborer in a wire mill. The late Thomas Lynch, long head of the H. C. Frick Coke Co., handled a pick in the coal mines of that company. Schwab and Corey, the two former presidents of the corporation, both started at the bottom, as did Alvah C. Dinkey*, now head of the Carnegie Steel Co., and many others. Even Gary, although he did not become connected with the steel industry until middle life and after he had made his success, was the son of a farmer and got to the top by hard work combined with unusual ability. There is no Open Sesame to honor in the big company—nor for that matter, in the steel trade as a whole—the keys to success are ability and energy.

Says Alvah C. Dinkey: "In steel making harmonious team work is essential to the best results and the natural leader therefore rises to the top by the general recognition of his fellows."

Efficiency, that supreme aid to increased output and large profits, has become a fetish in industry in recent years. In its final analysis "The Spirit of the United States Steel Corporation" is efficiency, not applied merely to the mechanical processes of manufacturing, but to the human element behind these processes; the efficiency that abides in a healthy, well-housed and contented workman.

The corporation has always taken a close interest in matters affecting conditions of labor. It has lent its influence, its money and the time of its officials to better these conditions, to provide better homes and more sanitary and healthy conditions for its men, better educational facilities for their children and wholesome amusement for both. For itself, the big company expects to benefit by reason of increased efficiency; for the worker its final aim is increased self-respect.

George G. Crawford, president of the Tennessee Coal, Iron & Railroad Co., says on this point: "Summed up, the end of all social betterment work is the inculcation of self-respect. The worker possessing this quality is

*Mr. Dinkey resigned in October, 1915.

worth more to himself, to his employer and to society than the man lacking it. Without self-respect he remains a common drudge, his value stationary or perhaps receding. With it comes ambition and energy, and the employer who does not set a high value on these qualities is short-sighted. The lowest kind of labor is always to be had, but the men with ambition and the will to make good that ambition, the men of real value to themselves, are not so easy to find—and they are many times more necessary."

Mr. Crawford pointed out that many young men who would be marked out for advancement in the steel industry, where their energy and ability would be gladly recognized, prefer to go into offices or stores as clerks with a much smaller opportunity for advancement, rather than work in a steel mill or mine, because the conditions natural in the work, unless mitigated by the efforts of the employer, were such as to injure their self-respect. By surrounding living conditions in the industry with those things that make for clean, decent manhood, such men would be attracted and the employing corporation would thereby open up to itself new fields for recruiting the highest type of men for its organization.

Cleanliness, the proverb tells us, is next to Godliness. Undoubtedly it is the foundation, the very backbone of self-respect. The man who is clean, who is surrounded with cleanly living conditions, holds up his head among his fellows. And this is why, to my mind, the efforts of the Steel Corporation to introduce sanitation into the steel industry—the first principle of sanitation being cleanliness—constitute the greatest step taken towards improving the standard of living of the industrial worker.

Let us take one single sanitary measure and see its effects on the life of the worker. If the reader has ever been in the coal mining regions in the days before the light of sanitation began to flood industry, or indeed, in some districts where that light shines not at all or very dimly even today, he has seen miners returning from the

day's work, their faces, clothes and hands black with the grime of burrowing all day in the deep coal pits—the grime usually is the accumulation of many days, perhaps weeks, of such work. Is it hard to surmise the conditions in the home of these men? The home, unprovided in most instances with adequate facilities for washing, must sooner or later take on the aspect of its head, for what woman could continue a struggle to keep herself, her house or her children clean against such odds? Untidiness, slovenliness and the attendant diseases follow as a matter of course. The family standard of living cannot progress, rather must it go backward.

Practically every mine or mill operated by the various subsidiary companies of the Steel Corporation has as an adjunct a large washroom, appropriately known as a "comfort room." These comfort rooms are equipped with long rows of washbowls and a number of shower baths, as well as a locker for each man. The worker, reporting in the morning, changes to his working clothes and after the day's labor he is able to enjoy a nice refreshing shower, and changing back to his street clothes, returns home leaving behind him all the dust and dirt of the day. There can be no comparison between the conditions in his home and those in the one pictured above.

Any official of the corporation, or of such concerns as have followed its example in this respect, will tell you that the installation of these helps to better living is just plain, practical business. That the gain in efficiency pays many times for the cost of their construction and maintenance.

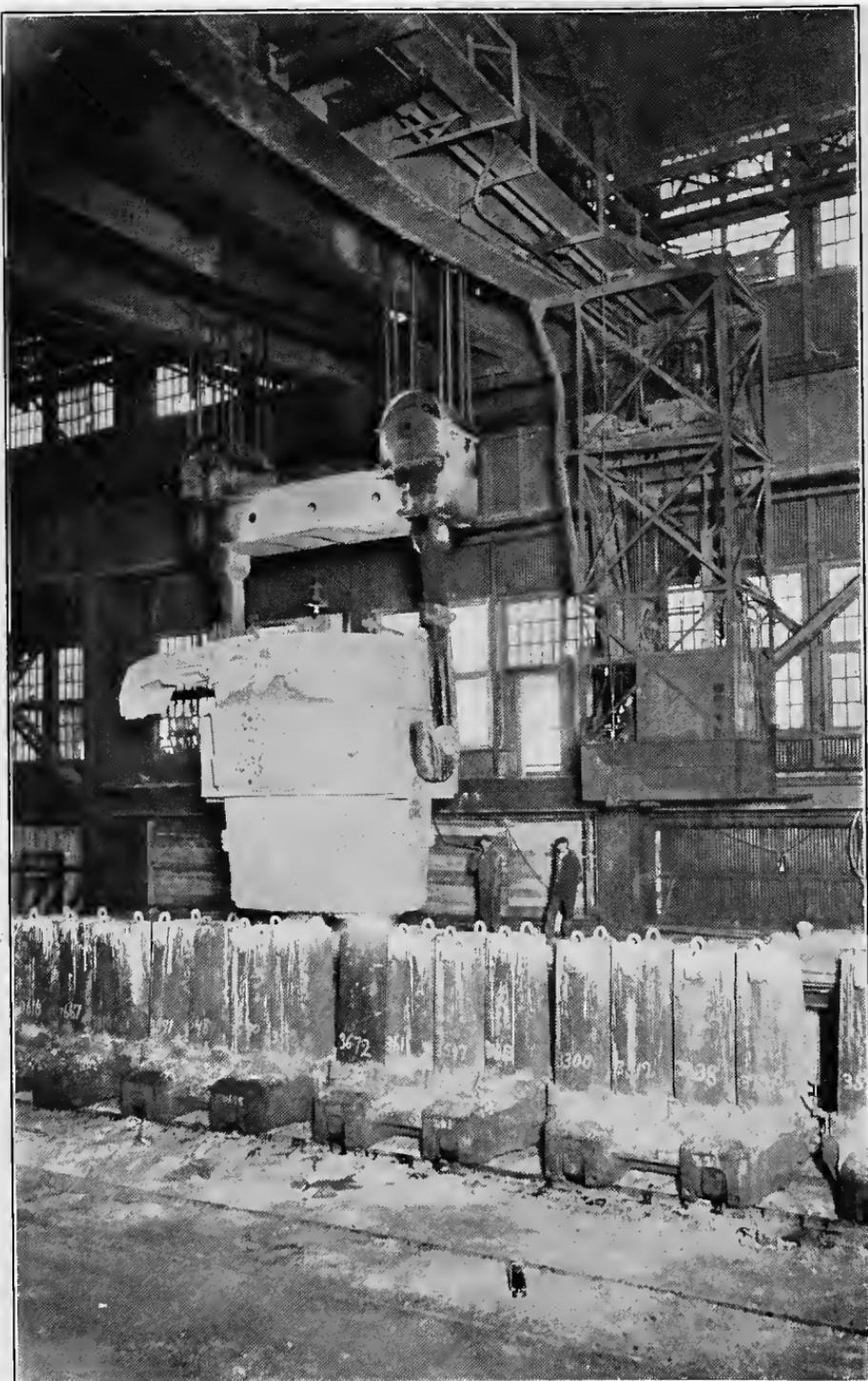
Steel mill conditions and surroundings are not naturally attractive—quite the contrary. As a well-known Pittsburgh man said once, a steel mill is far from being a drawing room. But the corporation has set itself to making these surroundings just as nearly attractive as possible. It is now the rule rather than the exception to see garden patches, with flowers in Summer, here and there through steel plants. And these are not purely ornamental. It

has been proven by experience that the workman who can rest his eyes during his lunch hour on even a tiny bit of "God's green earth" instead of being compelled to contemplate dirty brick walls or piles of rusty scrap iron, begins the second half of his day's labor less fatigued. And here again we see the fetish of efficiency lifting up its head.

I have visited boiler rooms and other work places in corporation plants, the tiled floors of which are kept spotlessly clean. I have seen the machinery hidden from sight just as much as proper operation would possibly permit and, in place of the strewn tools, cotton waste and other litter usually associated with such places, I have seen handsome oak tables arranged in orderly disorder here and there with brass gardeners, flowers and so on that one would ordinarily expect to find only in a home. Upon asking the reason for this adornment, I was informed that it meant greater comfort to the worker and better work to the employer. It was further explained that a good deal of Sunday or night work was often necessary, work, however, which gave the men a considerable amount of spare time, while necessitating their presence on the job, and that they liked to have their friends or families come and keep them company. The company found that by giving the worker a place where he need not be ashamed to invite his wife or children his self-respect was increased and his value to the company added to.

Again, a practical business reason. But was that all? I do not think so. For I came to find out that the men who were engaged in this work for the improvement of conditions usually became engrossed in it for its own sake, that the human side of it eventually and inevitably came to occupy the chief place in their minds, although I never found one to admit this.

In a previous chapter the inauguration and operation of the Stock Subscription Plan, designed to perfect the physical organization of the corporation, was explained. As a result of this plan some 50,000 steel workers have



POURING INGOTS

become stockholders of the great company, or more than one-third of the total number of stockholders. It has been suggested by some who see nothing but menace to the worker in every action of a big corporate enterprise that this plan had for its real object the subjugation of the worker by inducing him to invest part of his wages in stock of the employing company and then demanding unswerving obedience, enslaving him, by holding over his head the fear of the loss of his investment. It has been claimed that the plan was a master stroke to give the corporation the whip hand in the event of a strike. It is, of course, impossible to argue motives, but the plain facts are that the plan has not worked out this way.

True, the big company has had very little trouble with labor, either before or after the promulgation of the plan. But far from instilling a spirit of fear into the men, it is noticeable that the stockholding employees regard themselves, and rightly, as part owners in the vast enterprise, the organization of which they are parts, that they feel a genuine interest in its welfare and work wholeheartedly to further that welfare. They take a pride in the corporation that is very real and apparent. And it is not strange that this should be so. If the corporation had designed to make its workers subservient it would be defeating the other great efficiency end it has striven for, because self-respect and subservience are deadly enemies and cannot exist together.

The offering of stock at attractive prices to employees is just another efficiency measure. Each worker who is a part owner in the business works for more than his wage. "His heart is in his work and the heart giveth grace to every task." Besides the plan encourages thrift and it is a recognized fact that the thrifty worker is more reliable than his spendthrift brother, and more efficient as the knowledge that he has something put by for the rainy day takes a burden of worry, a great handicap to efficiency, off his shoulders. Finally this knowledge helps to increase a man's independence, his self-respect.

If I seem to hark back continually to self-respect it is because I consider this quality paramount, its influence affecting not only the worker and his employer, but the whole community. If I were asked to sum up in a few words what the United States Steel Corporation has done for industry, these words would be "It has exerted an enormous influence in helping the worker, the common laborer, to become a self-respecting citizen."

The tangible gain to the corporation has been enormous. The intangible gain, although not reflected in profits, has been even greater. The management of the big company realized that the worker's rights to a decent life were just as important as the rights of capital and that more, both in mental satisfaction and in profits, was to be gained from a recognition of these rights than their denial. Perhaps, too, it saw that sooner or later the day would dawn when the worker with his hands would demand fair treatment, and it had the foresight and courage to hasten the approach of that day.

In the matter of wages the corporation's course has been in entire harmony with its general policy towards the worker. Since its organization in 1901 it has several times, and always voluntarily, increased wage rates, and in so doing has set a lead which other steel companies have found themselves forced to follow. It has only once reduced wages, and then not until the dividend on the common stock had been passed. Its principle has been that capital and labor both have important rights in the earnings of industry, but that labor is perhaps more directly concerned in its fortunes and should therefore be the last to suffer in times of stress.

Since 1901 the average wage rate of the steel worker has been increased approximately 27 per cent., and this gain has been due almost entirely to the corporation's stand on this question. If any one doubts this, let him ask the competitors of the big company. In 1911, when steel prices were at an unprofitable level and orders were slack, the heads of more than one independent

company told me that a reduction in wages, what they called the liquidation of labor, was necessary, even imperative, but that they were restrained from resorting to it while the Steel Corporation continued to pay its men the old rate. They said, in effect: "The United States Steel Corporation boosted wages to the present high level. Let it take the lead in lowering them." But the corporation did not. Instead, just as soon as there seemed to be fair promise of good business, it gave wages another boost of about 7 per cent. Not a year ago, in the face of the worst trade depression in years, and in spite of the fact that the corporation had been compelled to forego the payment of the dividend on its junior stock and was not earning its preferred dividend, its management refused to let the worker suffer. So strong was the sentiment throughout the trade at that time in favor of the liquidation of labor that a wage cut was looked on as not only justified, but certain, and it is generally understood that it was only the insistence of Judge Gary that prevented its occurrence.

Average wages paid by the Steel Corporation to its employees during the past thirteen years have been as follows:

1902	\$716.88	1909	\$775.77
1903	720.08	1910	800.95
1904	677.18	1911	819.85
1905	710.78	1912	856.70
1906	729.86	1913	909.50
1907	765.18	1914	905.36
1908	729.44		

Although the annual wage in 1914 was some four dollars less than in 1913, the average day wage to the workers, exclusive of the administrative and selling employees, was \$2.88, compared with \$2.85 the previous year. This is significant as indicating the policy of the corporation to equalize as much as possible the amounts paid to the different classes of workers. In instituting advances it has always been the lowest classes of labor that have been benefited most. The result of this, as has been testified by the workers themselves, is better team work with resultant greater efficiency and increased satisfaction on the

part of the men who recognize the essential justice of the policy.

The Steel Corporation has been subjected to repeated attacks because of its attitude towards labor unions. It neither encourages nor approves unionism and it does not contract with unions as such. It stands for the open shop. As it is plain that the biggest of all employers has not sought to crush the worker, that it has, in fact, done much to make his lot better and brighter, the question may fairly be asked why it is opposed to dealing with organized labor.

The reason is not far to seek. Unionism is opposed to efficiency. It destroys the esprit de corps that is so important in getting the best results from a large body of men. In its very essence it is antagonistic to the employer, it sets labor and capital into two distinct and inimical camps. It would make war between capital and labor, and the management of the corporation believes that the only workable solution of the whole industrial problem is to bring labor and capital into friendly co-operation, to give labor a part in the ownership of industry, making the interests of both common. This is accomplished in part by the Stock Subscription Plan.

This, of course, cannot be accomplished in a hurry. A movement of so vast a magnitude must necessarily take time. But it is safe to say that had the corporation's employees been organized, the betterment of the conditions of its workers—and, consequently, of the steel workers of the country—would not have progressed nearly so rapidly as it has.

I have endeavored to outline broadly the corporation spirit of efficiency, it being impossible in the limits of this chapter to give details of the many methods adopted, both by the corporation as a whole or by the various subsidiary companies, all directed to this one end. And with this efficiency comes loyalty and co-operation, which, I am convinced, makes the United States Steel Corporation the

most wonderful industrial organization the world has ever seen.

No large employer of labor can escape from the charge of injustice to its men, of seeking to grind down labor, and the Steel Corporation has not been immune from such attacks. The best answer to that charge was made by one of the workers themselves. At the annual meeting of the corporation in April, 1913, several of the men from the mills were present and one, E. R. Smith, a tin plate roller, declared that in view of the fact that the mass of the corporation's employees had time and again given proof of their satisfaction with the relations between them and the corporation and of their loyalty to it, the charge that these men were oppressed, a charge implying the most degrading servility on their part, was an insult to the dignity of labor.

I have tried to show loyalty and co-operation exists throughout the United States Steel Corporation. That it is the result of the endeavor on the part of the big company to give to the men who make up its organization absolute justice, the square deal, its effort to make the worker, even the poorest, an independent self-respecting citizen, and to give every man in its mines, mills, offices and so on an opportunity to share in the profits derived from his efforts. All this to promote efficiency, the "Spirit of the Corporation," to increase the value of the worker to himself, to the community and to his employer. Have I justified my statement made in an earlier chapter that the organization of the United States Steel Corporation was the greatest step that has ever been made towards the highest form of socialism?



LOADING AN ORE TRAIN

CHAPTER VIII

THE CORPORATION'S IMPLEMENTS.

FROM the days when steel was made "by the spoonful" to the present when the great "Steel Trust," with its 33 Bessemer converters and more than 300 open hearth furnaces, is capable of producing some 55,000 tons every twenty-four hours, is a far cry reckoned in terms of industrial development, although the time covered is less than three-quarters of a century. The pioneers of steel could hardly have dreamed of the enormous proportions which the industry would assume, the innumerable uses to which the metal would be put.

Fifty short years ago steel, commercially, was still in the experimental stage, struggling against iron for its "place in the sun." At that time the head of a great railroad system dismissed a persistent salesman who had been trying to secure his order for steel rails with the exclamation: "Steel rails! Bosh! Stuff! Nonsense!" That line has thousands of miles of track to-day and, of course, they are all steel. Engineers viewed askance the plans of the first designer of a skyscraper who proposed to erect a steel bridge up into the air. To-day the Woolworth Building towers 750 feet above the pavement of Broadway.

With good reason has the present era been called the "Age of Steel." What field has steel not invaded, in what line of human activity does it not play a prominent part? Our big buildings, our navies, both of war and commerce, our trains and the rails that carry them, machinery, tools of every trade—all steel. Furniture, watch springs, even wire hair for stuffing mattresses—steel again. And new uses are being discovered for the metal almost every day.

What is steel? Iron that has been refined and hardened

by processes in which heat plays the most important part. Iron ore is found in large quantities in this and other parts of the world. Sometimes it is loose like dirt, and again it is a rocky formation. Its color also varies, some ores being red, others yellow and so on through various shades and tints. But the pure metal is white and, strange as it may seem, quite soft. Cleansed of its impurities and hardened by a mixture of carbon and other ingredients, it becomes one of the hardest of metals—steel.

Iron, apparently, is common to all the planets, analysis having proved that meteorites often contain a large percentage of the metal. So general is its distribution that a theory has been advanced that the earth is nothing but a vast mass of iron thinly encrusted with rock and dirt and the deposits found near the surface are merely the outcroppings of this inexhaustible mine.

The Western Hemisphere is particularly favored in regard to its deposits of iron. Immense ore bodies exist in the United States and Canada, as well as in Chile, Brazil and Cuba. Of the ore beds in this country the most important lie around Lake Superior. Near this great inland sea there are no less than six different so-called ore ranges, the Mesaba, Vermilion, Marquette, Gogebic, Menominee and Cuyuna. Of these the Mesaba is the largest, richest and most easily worked, and from it is taken a material proportion of all the ore mined in the United States. There are ore bodies of considerable size being worked in Alabama, New York, Pennsylvania, Colorado, Wyoming, New Mexico and Utah, and some American iron and steel makers import iron ore from Sweden, Cuba, Spain and Chile. But the Steel Corporation's subsidiaries depend upon the Lake region for their raw supplies, with the exception of the Tennessee Coal, Iron & Railroad Co., which uses Alabama ores.

First of the Lake ore deposits to be opened was the Marquette Range. In 1845 Philo M. Everett was guided by Indians to "a mountain of solid iron" to which he gave the name of the missionary explorer. Shortly afterwards

a surveyor named Stunz set out to seek gold in the wild region north of the Lake and came back to civilization with the tale of vast iron deposits in the Vermilion Range. But it was not until the early seventies that capital, in the person of the late Charlemagne Tower, could be interested in the exploitation of the deposits.

The discovery of Mesaba, the greatest of the ranges, was also due to accident. Some years before the Civil War, Lewis H. Merritt, a prospector, struck out into the woods in quest of gold and came back empty-handed, except for a few samples of iron ore. Little did he dream that he had found what would eventually prove far more precious than gold. He told of his discovery only to his four sons and it was not until 1885 that the Merritt brothers staked out their first mine in the desolate region. The Merritts were lumbermen and their claims that ore existed on the range was scoffed at for some time, the mining fraternity proving to its own satisfaction that no iron could be obtained from the Mesaba mines. In 1913, the Steel Corporation alone took 21,635,000 tons of ore from this range, a single mine yielding 3,500,000 tons!

The finding of iron in this region, incidentally, proved a great boon to the cause of education in Minnesota. The story has been told but is worth repeating. It is the tale of a joke that reacted on its perpetrators, and has its beginnings before the Civil War. At that time the public school system of Minnesota was badly in need of aid and the educators clamored long and loud at the door of the legislature for a share in the public lands, eventually wringing from the lawmakers a promise of ten sections. This promise was kept, but to the discomfiture of the educators, and the amusement of everyone else, it was found that the sections lay beyond the pale of civilization, far in the Northeastern part of the State. But the joke reacted when the development of the Mesaba Range began to shovel gold to the credit of the school system. To-day the Minnesota schools have millions to their credit

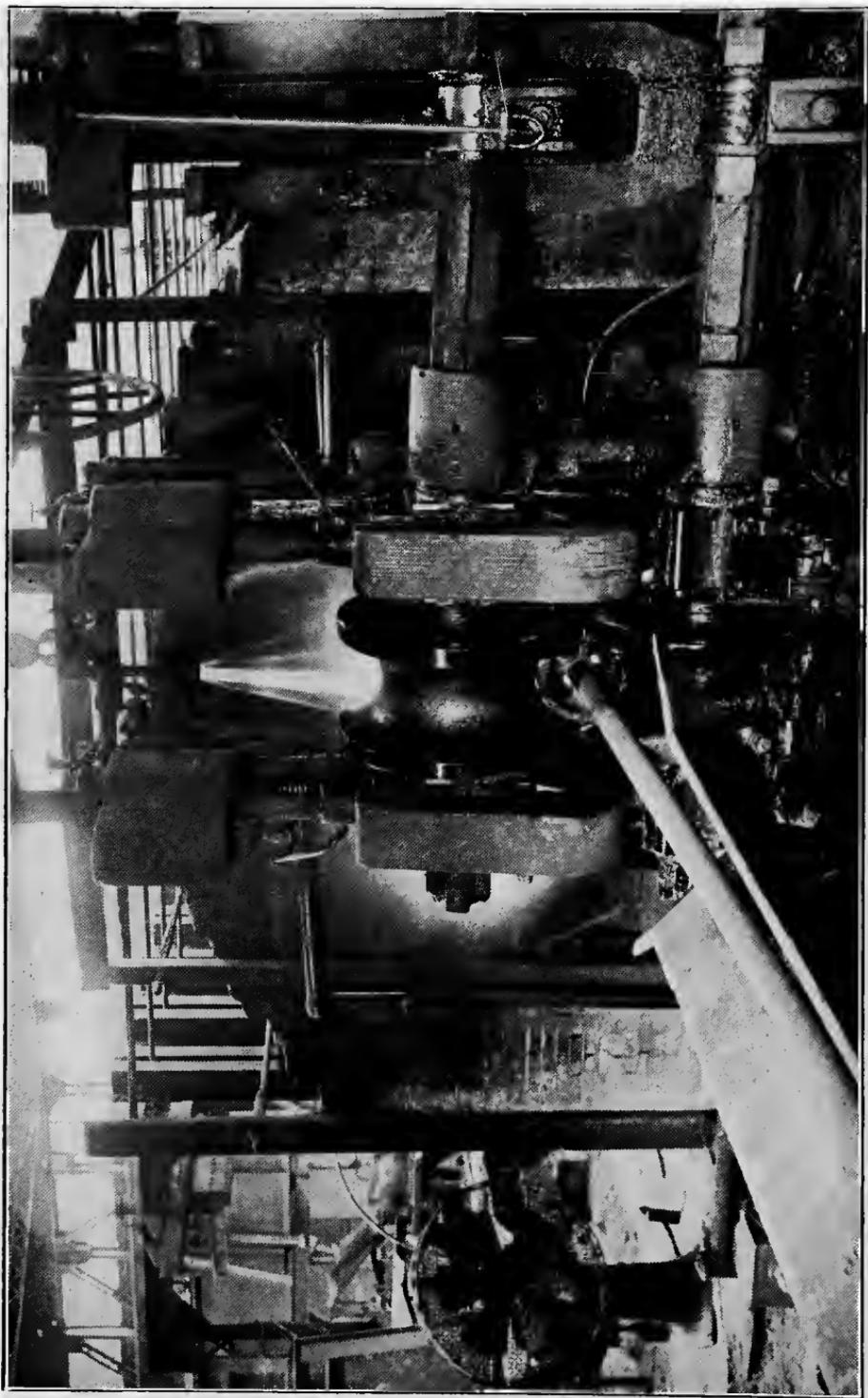
and are constantly adding to the amount through royalties on shipments of ore from the aforesaid ten sections.

A mine, in the commonly accepted meaning of the word, is a deep pit or shaft in the ground, from which tunnels, or drifts, radiate through the ore bodies. But in the Mesaba region nature has been kind to the steel maker. She has saved him the trouble of delving under the earth's surface to get at her riches. The majority of the mines here are not mines, in the accepted sense, at all. They are what a veteran of pick and shovel methods called them when he first saw one in operation. "Mine!" he exclaimed; "why, that isn't a mine, it's an ore farm."

Imagine a vast amphitheatre hollowed out of the ground, half a mile wide and a mile and a half long—these are the dimensions of the Hull-Rust mine at Hibbing—and descending in a series of deep terraces to 120 feet below the surface, with every terrace, save the first, dug out of solid iron ore, and you will have an idea of what one of these Mesaba "ore farms" is. One end of the mine is graded to permit the entrance of trains, and big steam shovels burrow into the soft ore, scooping up a ton of ore at each lift and dumping it into the waiting cars.

Under these conditions mining becomes largely a matter of speeding up steam shovels and of transportation. At the beginning of the century no mine had ever shipped 500,000 tons of ore in a season; in 1913 the Hull-Rust averaged that each month—a ton of ore every two seconds, allowing for a ten-hour working day.

Exclusive of the mines covered by the Hill lease, now abandoned, the Steel Corporation has developed some seventy-five mines in the Mesaba Range. The number worked at any particular time depends on steel trade conditions. In one year it has taken from these mines more than 21,630,000 tons of ore. In the Vermilion Range it has five mines, in the Menominee seven, in the Marquette twelve, in the Gogebic thirteen, and in the Baraboo Range, in southern Wisconsin, one. Its developed



A STEEL TUBE IN THE MAKING

mines in the South number twenty-two, of which four were inactive at last report. The total yield of these mines in 1913 was 28,738,451 tons.

Perhaps the immensity of the corporation's mining operations can best be illustrated by the statement that the excavation involved in "stripping," or removing the surface earth overburden from the open pit mines, has aggregated 234,000,000 cubic yards of earth, or more than the excavation made in digging the Panama Canal, in the Mesaba Range alone. Total excavation in this range, including mining operations, amounts to approximately 410,000,000 cubic yards.

All the corporation's mining operations in the North are handled through one subsidiary, the Oliver Iron Mining Company, at the head of which is William J. Olcott.

Some of the western Mesaba ores are too low in iron content and too high in silica to be immediately available for steel making. For this reason a concentrator, or ore washing plant, the biggest in the world, has been erected at Coleraine, and here ore as low as 37% in iron is treated by water and gravity and brought up to an average of about 56% iron. This concentrator, capable of handling about 3,000,000 tons of crude ore a year, is operated entirely by electricity.

Two well equipped railroads, both Steel Corporation owned, carry the ore from the mines North of Lake Superior to tidewater on that lake. The Duluth, Missabe & Northern, at the head of which is William A. McGonagle, transports the Mesaba ores to the port of Duluth, while the Duluth & Iron Range, of which F. E. House is president, runs between points in the Vermilion Range and the eastern part of the Mesaba Range to Two Harbors. The mines of the other lake ranges are served by independent roads, the ports being Marquette and Ashland, on Lake Superior, and Escanaba, on Lake Michigan.

From these ports the ore is taken on the vessels of the Pittsburgh Steamship Company to Gary, South Chicago, Cleveland, Ashtabula, Conneaut, Fairport and other Lake

Erie points for distribution to the furnaces. The Pittsburgh company operates seventy-two steamers and a number of other vessels on the Great Lakes. Many of these vessels are over six hundred feet long, with a carrying capacity of 12,000 tons of ore, for the freightage of which they are specially built.

The boats are loaded with their cargoes from the corporation's ore docks, the largest of which are located at Duluth. The newest of these docks, only recently completed, has a total length of a mile and a quarter, half a mile of which juts out over St. Louis Bay, its steel and concrete structure towering eighty feet above water level.

Loading is done by rapid-fire methods. The trains from the mines dump their contents into huge pockets in the docks—the new dock has some four hundred pockets, each holding 300 tons—and from these the ore is allowed to slip into the vessels by way of long chutes let down into their holds. No labor is required for the operation, the whole being accomplished by the natural force of gravity. By this method a twelve thousand ton ship has been filled in less than half an hour, although the average time is a good deal longer than this record.

At the other end of their trips these vessels are unloaded, down to the last spadeful, within three hours. Of the various unloading devices employed the Hulett machines are the most modern and impressive. Weighing hundreds of tons, these huge affairs are moved up and down the docks by the touch of a lever. Almost "a child can handle them." From them project mighty arms, which, somehow remind one of gargantuan grasshoppers. Seated comfortably in the wrist of one of these great arms is the operator and, at his will, the clam-shell bucket hands dip down into the bowels of the vessel and, opening their metal fingers wide, to a span of twenty-two feet in the largest sizes, close with irresistible might on everything within that span.

The Hulett machine is the very embodiment of power. The incalculable force of those mighty fingers would crush

a railroad car like a sponge. A mistake by the operator and the steel ribs of the unloading steamer would be torn away, gnarled and twisted. And when that hand comes up, it brings a load worthy of its strength, full fifteen tons of ore!

Another spectacular time-saving method is to be witnessed at Conneaut, where coal destined for the ore mining regions is loaded into returning ore boats by the carfull, fifty tons at a clip. Each car is seized, lifted and swung out and over the vessel, and its entire contents emptied into the hold in a matter of seconds.

To Pittsburg, center of the steel industry, comes the bulk of the ore shipped from the Great Lakes. Ore destined for Pittsburg furnaces is brought from the lake ports by the Bessemer & Lake Erie Railroad, another corporation subsidiary, with its 200 miles of main line, the fourth longest, but probably the best known of the Steel Corporation lines. The Duluth, Missabe & Northern holds first place among these roads in respect to mileage, 224 miles, with the Elgin, Joliet & Eastern second, 210 miles, and the Duluth & Iron Range third, 204 miles. The total trackage of the Steel roads, including sidings, branches, switches and yard track, is 3,380 miles, all maintained in excellent condition and absolutely modern.

A line drawn from New Orleans to St. Louis, thence to Kewanee, Ill., and so on through Minneapolis north would about form the western boundary of the Steel Corporation's manufacturing and mining activities. The northern boundary would be the Canadian border, with the Atlantic and Gulf of Mexico bounding the east and south. Half the United States! The extreme northwest of this area is now devoted to mining alone, but a steel plant with a capacity of nearly five hundred thousand tons of steel ingots will be in operation at Duluth before the end of the current year*.

All over the remainder of this vast area are scattered the plants of the big company, but nowhere are they so thickly

*This plant is now in operation.

clustered as around Pittsburg, the steel city of the world. Here the biggest of the subsidiary companies, the Carnegie Steel Company, has its headquarters, and here too is the home of the National Tube, American Sheet & Tin Plate and American Bridge companies. All the Carnegie plants are in or near Pittsburg, as are the principal plants of the National Tube Company—this company has an important establishment at Kewanee—but the Tin Plate and Bridge companies have their plants very widely scattered. The Chicago territory provides a home and a market for the Illinois Steel Company and the Indiana Steel Company, which it controls and which operates the big Gary plant. The American Steel & Wire Company has its head office at Cleveland, but its plants are scattered over a great many States, from Illinois to Massachusetts, and it also has a plant at Hamilton, Ont.

All over Pittsburg and its environs are to be seen the stacks of the blast furnaces of the corporation and other steel companies, in which the ore is transformed into pig iron, the first step in the manufacture of steel. These furnaces are usually built in "batteries," several together. They are immense ovens of steel and fire brick, in which a temperature of over three thousand degrees can be generated, and in this heat the ore is melted into iron. From the ground to the tops of the furnaces run skips or buckets on inclined tracks to carry the ore to their mouths, where, with a mixture of coke and limestone, it is dumped. The ore, coke and limestone soon become one liquid mass of fire, and the oven, after a sufficient time, is "tapped" by breaking open a small opening at the bottom sealed with mud and letting the molten contents run out through gutters into receiving ladles. The iron, being heaviest, runs out first. The rest, following, is diverted into another gutter and cooled, when it is used in making cement, or in ballasting railroad tracks; this is known as slag.

Meanwhile the iron is carried in the ladles to the mixers, huge cradles holding 250 tons of molten metal and rocking slowly but continuously, into which different

heats of iron are poured and brought to a homogenous mixture. This is done to ensure uniformity in the iron.

William R. Jones, or Captain Bill, as he was more generally known, was for many years in charge of the Braddock plant of the old Carnegie company, and was one of the most picturesque figures that ever flitted across the pages of the history of the steel industry. Big, hot-tempered, but with a heart of gold, he was an ideal leader for a steel mill army. Gifted with unquenchable energy and enthusiasm, he acquired the habit of breaking world steel making records, and in the earlier days of his management of the Braddock works, he time and time again set the steel world agog by his feats in the matter of production. He continued to do so until the steel makers of Europe and America became so used to "Jones breaking another record" that it went unheeded. The Jones mixer was one of his many inventions.

In a letter to me, Mr. Carnegie said of Jones:

"Jones volunteered in the Civil War as a private and returned at its close a captain. You can't keep a good man down. I wished to make Jones a partner along with many of our pioneers and informed him of this one morning, his reply was:

"I don't want to be troubled with business matters. You just give me a _____ of a salary."

"All right, captain," I said, "hereafter the salary of the President of the United States is yours." And so it was."

From the mixer the iron is taken to the converter to be turned into steel. And now we come to the most spectacular, the most impressive sight that is to be witnessed in the steel industry, the theme for the poet who may one day be born to sing the Song of Steel.

A Bessemer blow, a converter in action, is a small-sized Vesuvius in eruption, a volcano tamed to do the will of man. From its great steel crater shoot forth flames to a height of perhaps a hundred feet, showering sparks around and creating a pyrotechnic display of unequalled splendor. The glare lights up the countryside

for miles around, while the hissing and roaring of the molten iron, or rather of the steel groaning in its birth throes, forms a fitting sound accompaniment. It is a sight that once seen is never forgotten.

Both Britain and America claim the invention of the Bessemer converter, the most epoch-making of all the discoveries in the steel trade and one that has influenced all industry, civilization itself, immeasurably. For before its use steel could only be made in small quantities by a slow and expensive process and was not available for the varied uses for which it is employed to-day. Had it not been for the Bessemer converter there would have been no "Steel Trust."

Shortly before the middle of the nineteenth century William Kelly, in America, and Henry Bessemer, in England, were struck by the idea that air could be used as fuel, that the oxygen in air would serve to burn out the impurities in iron and would at the same time blow these impurities away. The records seem to be slightly in favor of Kelly as the original discoverer, although Bessemer got all the credit, and knighthood, for his work, while the American got nothing. A Bessemer converter is actually a big retort with air holes at the bottom, where molten iron is purified into steel with air.

The first attempts at "making steel with air" met with scant success. The pioneers of the new process encountered the same sort of opposition as later confronted George Westinghouse when his fertile brain gave birth to the air brake. The youthful inventor secured an interview with Commodore Vanderbilt, head of the New York Central system, and endeavored to interest him in his invention.

"Do you mean to tell me," Vanderbilt asked, "that you propose to stop a railroad train running at full speed with nothing but air!"

"Just that," Westinghouse replied.

Vanderbilt turned to his secretary: "Show this lunatic out and never let him trouble me again," he said.



SIR HENRY BESSEMER

From "The Romance of Steel," by H. A. Casson, published by the A. S. Barnes Co.,
New York

Kelly's first attempt at purifying iron with oxygen was a failure. The blast was too strong, and the iron was blown away along with the impurities. But he was not to be discouraged, and at length got the blast right, only to find that the metal that resulted was too soft, for a small percentage of carbon and other alloys must be retained in the steel to give it hardness.

Then a Scotch ironmaker, Robert F. Mushet, came forward with the practical suggestion: "Burn out all the carbon, then add the amount required for hardness," and the thing was done.

This hissing, roaring volcano is easily handled by one man. As he watches the flame that pours from its mouth, change from red to yellow and finally burn white, he touches a lever and the huge caldron turns on its axis, while workmen quickly shovel into it carbon, silicon, etc. Then it is further tilted and the contents spilled into a ladle which swings away with its load while the converter is charged afresh with iron.

Open hearth steel, more popularly used nowadays than the Bessemer product, is made by a different process. As its name implies, the iron is changed into steel in large ovens, into which are put the iron and the different alloys as well as an amount of scrap necessary in the process. When the proper melt is arrived at the metal, now steel, is run off into the ladles.

Times change and steel-making with them. Open hearth is fast supplanting Bessemer steel in all markets, and the day does not appear to be far distant when Bessemer steel will be practically a thing of the past. Greater strength is claimed for the newer process. But it must not be forgotten that the discovery of Kelly and Bessemer gave birth to the modern steel industry and made possible the Age of Steel. No doubt open hearth will later yield to another process. A prominent steel maker recently suggested that electric steel would be the steel of the future.

All the newer steel plants are equipped with open hearth furnaces. At Gary, this is the only product made, and even the Carnegie Steel Company now has 129 open hearth furnaces to fourteen Bessemer converters. Altogether the Steel Corporation's converters number thirty-three, and its open hearth furnaces 298.

From the ladles the steel is poured into molds of cast iron some eight feet high and of various thicknesses and widths, where it is allowed to cool until semi-solidified. The molded metal is known as an ingot, which is steel in its first form, as distinct from iron. If not for immediate use the ingot is left to cool and harden completely. Otherwise it is taken to the soaking pit as, when taken from the mold, its outer surface is comparatively hard, while the inside is still soft, and the metal could not be rolled in this state. In the soaking pit the ingot is slowly brought to a uniform heat throughout and is then ready for the rolling mill, where it is to be transformed into steel as we know it commercially.

The various processes by which the ingot is transformed into rails, wire, tubes, plates, and the wide diversity of shapes made by the corporation cannot be detailed here. In one mill may be seen the rolling of the ingot into the form of a railroad rail, or large plate or beam. In another the ingot is reduced to billets, square bars of steel, some four inches thick and several feet long, and later follows the processes of rolling the billet to wire rods, long, sinuous snakes of red hot metal, to be cooled and drawn through dies to still smaller sizes of wire, or to other described shapes. Here are the nail mills—probably the noisiest places in the world—and there the tube works, where thin plates of steel are shaped and welded into tubes and pipes for uses of all kinds. Altogether the corporation has 146 works scattered over the eastern half of the United States, these works comprising 125 blast furnaces, 33 Bessemer converters, 298 open hearth furnaces, 68 warehouses, 711 mills for rolling billets, slabs, blooms, sheet bars, rails, plates, shapes, wire rods, skelp,

sheets, merchant steel and so on; 61 mills for drawing and making the various kinds of wire and wire nails; 55 tube works and furnaces; 14 tin plate mills; 20 bridge and structural plants; 38 galvanizing and tinning departments, and 37 other steel mills of one kind or another, besides an armor plate plant, axle works, horse-shoe mill, etc., and twelve plants for making iron sulphate and five cement works. It has a total capacity of over twenty million tons of ingots and some fifteen million tons of finished steel.

But the mining of coal and its conversion into coke is almost as important a part of the steel industry as the mining and refining of iron, for iron and steel cannot be made without coke. The Steel Corporation's coke operations are carried on a scale in harmony with the general immensity of its steel making. In 1913 the big company mined 30,786,573 tons of coal, and manufactured 16,663,480 tons of coke.

During the earlier periods of the history of the steel trade the steel and iron maker did not produce his own coke, but bought it. With the gradual integration of the industry steel companies began to go into the coke business, and this is the rule to-day, although many important concerns lack facilities for making the coke they need. The most important merger of steel and coke interests was that which brought together Andrew Carnegie and Henry Clay Frick, and later resulted in giving to the Steel Corporation, when it absorbed the Carnegie Steel Company, control of the vast coal mines owned by the Frick interests.

Frick, who has a right to a high place among the interesting figures of American industrial history, was born on December 19, 1849. He began his business life as an errand boy and later became a clerk in a distillery at Mount Pleasant, Pa., in the middle of the coke producing district. The young man grew to be a firm believer in the future of the coke industry, and out of a slender salary saved enough to make some small investments in coke

lands. Eventually, with the aid of a Pittsburg banker, he organized H. C. Frick & Company, later the H. C. Frick Coke Company, and within a few years became the leading figure in the coke trade.

When Carnegie decided that integration demanded the acquisition of coke properties, he secured control of the Frick company, and Frick not long after was made a partner in the Carnegie company. To-day Frick is a director and a member of the Finance Committee of the Steel Corporation and, incidentally, he is reckoned as one of the richest of American millionaires.

The H. C. Frick Coke Company is still the most important by far of the corporation's coke making subsidiaries. It owns vast areas of land in the Connellsville district, near Pittsburg and supplies the greater portion of the coke used by the big company. At its head for many years was Thomas Lynch, a man who worked his way up under Frick from the job of common laborer to the presidency of the big coke company. Lynch was one of the most esteemed men in the steel trade, his popularity being due to his genial disposition. At his death on December 29, 1914, he was succeeded by Walter H. Clingerman.

At the Frick coke works coke is made by the old beehive process, in great open ovens, long rows of hundreds of such ovens where millions of tons of coal are turned into coke in the course of a year. The modern coke making process is leading away from these ovens on account of the waste of coal and of its by-products and steel plants now being built are equipped with the modern by-product ovens. But the Frick company is able to hold its own, and will for a long time, even against the rapid progress of the modernization of the industry. Will it be obliged to abandon the old ovens and replace them with the newer type? That remains to be seen; it is not highly improbable that the development of steel making will make necessary such a course.

Operations of the Steel Corporation in the South are carried on almost exclusively by its subsidiary, the Ten-

Tennessee Coal, Iron & Railroad Company. The Tennessee company is altogether self contained, having coal, limestone and ore supplies within a few miles of its mills. It is "sitting on its raw supplies" as one man aptly phrased it. Thus far the Tennessee company has been the least profitable of the corporation's subsidiaries, the amount of money taken out being absurdly small as compared with that put into it, but the condition of the company and its marketing possibilities are improving and the outlook for the future is by no means lacking in promise.

The tale of the expansion of the corporation's activities is not yet told. This is indicated by the building of a large steel mill at Duluth and the plans for another mill across the Canadian border. That its growth will not be too rapid may be considered certain, if for no other reason than that its management is averse to achieving anything that might savor of monopoly. But it would be safe to say that the future development of the Steel Corporation in regard to the extension of its steel making facilities will keep pace with the development of the American Continent.



CENTER OF THE CITY OF GARY, INDIANA, IN APRIL 1906

CHAPTER IX

THE STEEL TOWNS.

PIITSBURGH, preëminent in steel, the home of the company with which for many years Andrew Carnegie set the pace for the rest of the world to follow in steel making, Pittsburgh, her skies blackened with the smoke of hundreds of furnaces, that produces one-quarter of the world's supply of the hard metal, naturally comes to mind at the mention of the steel cities—she is first of them all.

Situated in the extreme West of the State of Pennsylvania, on the border of the great coal deposits of that State, and with excellent facilities for getting all her ore at low costs, having moreover an unsurpassed location in respect to markets for her finished products, Pittsburgh is likely to keep for a long time her commanding position among the steel towns. And yet, I do not propose to include Pittsburgh among the steel towns to be discussed in this chapter.

Pittsburgh is the world's steel town. And this is the story of some of the cities that owe their existence to the United States Steel Corporation, which have sprung up as a result of its manufacturing activities, and in the building and management of which the influence of the biggest of all businesses has been reflected.

To Gary, Indiana, then, belongs first place.

Bearing, appropriately, the name of the head of the corporation, the man who was more than any other responsible for its organization, and beyond peradventure responsible for its policies, Gary may be said to represent, as far as a town may, the spirit of the corporation —efficiency.

Gary's history is less than ten years old. The site of the city, in the northwest corner of Indiana, twenty-five miles from Chicago, was a sand dune on which grew only scrub oak and sage brush a decade ago. Its inhabitants were wild fowl and a few hardy hunters and fishermen, and on one memorable occasion a cave among the dunes gave refuge to the car bar bandits of Chicago until their surrender was forced by the police. In 1906 the Steel Corporation's management decided to build a big steel plant in the middle West and selected the sand waste on the shore of Lake Michigan, and thus was the city of Gary born.

The magnitude of the project and the difficulties which had to be overcome would have appalled any but so large a corporation. The proposed steel plant had to have a town to house its employees and the site of Gary offered not even the ordinary facilities for the building of such a town. It had no harbor, nothing could grow on its arid soil, these were only two of the handicaps to be overcome. But the corporation set to work to build Gary literally "from the ground up" and the present city, with a population of 40,000 was the result.

Work on the building of the steel plant and city was started in April, 1906. To the Indiana Steel Co., a subsidiary of the Illinois Steel Co. specially organized for the purpose, was given the task of erecting the steel mills, while the Gary Land Co. was organized and put in charge of the creation of the city. To make the new town inhabitable and attractive nearly two million cubic yards of earth was brought into Gary and used for the laying out of parks, boulevards and lawns. So far some 12,000 trees have been planted with the same object and with satisfactory success.

Safe haven for the corporation's vessels was provided by the cutting of a harbor slip five thousand feet long, twenty-two feet deep and two hundred and fifty feet wide, affording draft and anchorage for the largest lake

steamers afloat and terminating in a basin large enough for these vessels to turn around with room to spare. In the calm waters of this harbor, protected by a break-water, the ore vessels are unloaded at the rate of 1,250 tons an hour, the ore being conveyed from their holds to a storage yard parallel to the slip until needed to feed the furnaces.

How great was the task of building Gary may be gathered from its cost to the Steel Corporation. The construction of the steel plant and the creation of the town has involved an expenditure of nearly \$100,000,000 so far, and not all the work called for in the original plans has been completed. Of the 56 open hearth furnaces contemplated 43 have been built and are operating at present. The first heat of pig iron was produced at Gary on December 21, 1908, and the first steel ingot made early in the following year.

The Gary steel plant is probably the largest single steel plant in the world. It consists of eight blast furnaces, forty-two open hearth steel furnaces, a rail mill, billet mill, plate mill, five merchant mills, slab mill, axle plant, and a by-product coke plant of eight batteries, each of 70 ovens. With these are the auxiliary shops, machine shop, roll shop, electric repair shop, roll shop, boiler shop, blacksmith shop, etc., and the necessary electrical equipment.

Sixteen gas engines of 2,000 H.P. each, supplemented by four 3,000 H.P. steam engines, are used to operate the blast furnaces. The power required to operate the open hearth furnaces and steel mills is supplied by seventeen 3,000 H.P. gas engines, driving an equal number of electric generators, the gas for these engines and for the blowing engines being supplied from the blast furnaces. In this way, the power required for the entire plant is supplied by blast furnace by-product gas. Part of the power generated is transmitted to Buffington, five miles away, where it is used to run the machinery

of the Universal Portland Cement Co. The rail mill is driven by three electric motors of 6,000 H.P. each.

The estimated capacity of this big plant is as follows:

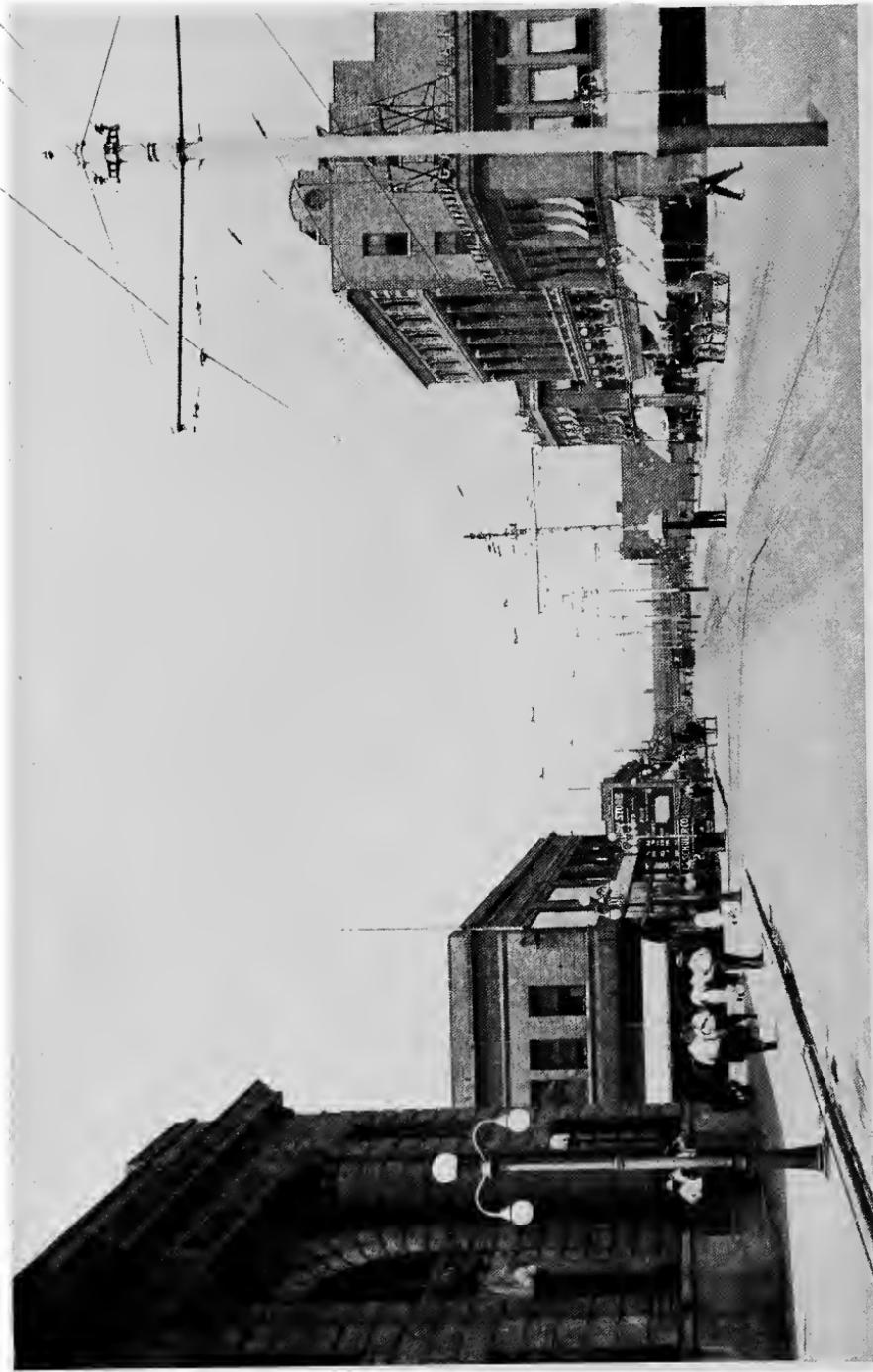
Pig iron	1,200,000	tons
Coke	3,000,000	"
Ingots	2,160,000	"
Billets, blooms and slabs.....	1,480,000	"
Sheet bar	600,000	"
Rails	1,000,000	"
Merchant bars	600,000	"
Plates	200,000	"
Axes.....	175,000	"

During the construction of the plant over 10,000,000 cubic yards of material were excavated and over 1,200,000 cubic yards of concrete placed. More than 150,000 tons of fabricated steel were used in its construction. The plant covers an area of 1,250 acres and a plot of land of approximately the same size and adjoining the existing plant is being reserved for possible future extensions.

Gary, the town, was incorporated in June, 1906, only a few months after it began building. At the first election for town officials, thirty-three votes were cast. Seven years later, in 1913, over 9,000 voters cast ballots! Gary's population is placed at 40,000 to-day.

When the Steel Corporation decided to build Gary it determined to make a modern city. The town was carefully laid out by competent engineers and ample provision allowed for growth. The town now covers thirty-one square miles, and contains 120 miles of paved streets—the two principal thoroughfares, Broadway, 100 feet wide, and Fifth Avenue, 80 feet wide, being paved with concrete block and the other streets with macadam. Between the streets are alleys under which the gas, water and sewer pipes are laid, this obviating the necessity of tearing up the street paving for repairs to service pipes. There are over 60 miles of these pipes laid in Gary.

In the residential section of Gary are many pretty homes owned by steel workers and others. The Gary Land Co. has erected a number of these houses—over



CENTER OF CITY OF GARY, IND., IN 1913

nine hundred—and these are offered for sale at prices representing the cost of the land and improvements, with a special discount to plant employees. The prices of these houses range from \$1,500 to \$25,000. The company also offers for rent at exceedingly nominal rates houses usually built of concrete and equipped with electricity and other modern conveniences. All these dwellings are attractively finished and each has its plot of green, large or small.

Perhaps the finest building in Gary is the home of the Y. M. C. A. given to the city by Judge Gary and costing \$260,000. This building contains a gymnasium, swimming pools, class rooms, dormitories and so on. Its equipment was the gift of the Steel Corporation. Opposite the Y. M. C. A. is the Library, erected by Andrew Carnegie, and not far off is now being constructed a Federal Building at a cost estimated at \$150,000. The Gary Hospital, built and maintained by the Steel Corporation, is absolutely modern in its equipment and management and compares favorably with similar institutions in the largest cities.

In all things Gary stands for modernity and efficiency. Nowhere is this illustrated as it is in the school system, for the city is likely to go down to fame as the home of the modern system of education. As the Gary educational plan is now being extensively copied in many large cities, among them New York, the metropolis of the Western Hemisphere, it is well worth devoting a little space to the consideration of the Gary schools.

At the head of the Gary school system is Professor William Wirt, an enthusiast on the training of youth. When the town officials and Steel Corporation officials took up the matter of education, they went at it in their usual thorough manner and looked around for the best school head to be obtained. Wirt was chosen for the post and he was given practically a

free hand in modelling the entire system, the result of which was Emerson and Froebel schools.

Wirt proceeded to turn topsy-turvy many of the old ideas of education. He had the big advantage of being able to arrange all details of the school system, even to the building of the schools, in accordance with his plan, and evolved a scheme under which the young of both sexes enjoy a vocational training completely equipping graduates from the schools to enter practically any chosen walk of life. But he has accomplished something bigger than this—he has made education attractive to the boys and girls who have the good fortune to come under his care.

The three school buildings together offer educational facilities to over 3,000 children. They are surrounded by spacious playgrounds, it being one of Wirt's theories that play is absolutely essential to the young, and work and play are so alternated as to double the number of children which the schools would ordinarily accommodate, one class working while another uses the playgrounds.

All the regular school subjects are taught in the Gary schools, as well as many others, including music and a number of sciences. A large auditorium is devoted to the study of history and geography, which are inculcated together with the aid of lantern slides, visualization of scenes and events being made use of to attract interest and assist memorization. The same idea is employed in other studies, the room devoted to natural history, for instance, being equipped with stuffed animals and even with small live ones.

The range of vocational subjects taught ranges from painting and carpentry to accountancy and architectural draftsmanship. The school is equipped with a carpenter shop, paint shop, foundry, draughting room, etc., and each trade or profession is inculcated not by theory but practically. The teachers of these subjects are not college professors but skilled workers in the different lines

and the students or apprentices to each trade make articles used in the school itself, this serving not only to reduce the cost of maintenance of the schools but to give the pupils the interest in their work that comes from seeing the product of their skill in actual use.

Thus, the youthful carpenters make tables, chairs, desks, etc., and very creditable ones; the painters keep the school rooms and buildings spic and span; the draftsmen plan additions or improvements; the accountants keep the school accounts. In every case a concrete end is served, to the benefit of the school and pupil.

Nor is the female of the species forgotten. A kitchen and lunch room, run by the girls, and selling lunches to their fellow students, gives the small housewife actual experience in the essentials of good housekeeping. Laundry work, sewing and other feminine industries are inculcated similarly.

In that part of the school buildings and grounds devoted to play are to be found swimming pools—one for boys and another for girls—tennis courts, baseball diamonds, swings and other aids to enjoyment loved by the young of all ages and sexes. Play is supervised by teachers who devote all their time to it, Mr. Wirt holding that competent instruction is needed in this as in history, geography or other studies.

How the Gary educational system appeals to the boys and girls is perhaps best illustrated by the following example, related to me by a foreman of the mills of the American Sheet & Tin Plate Co., which has a large plant on the outskirts of the town. I will tell the story in his own words, as nearly as I can remember them:

"Some two years ago my nephew, left an orphan by the death of his mother, came from Pittsburgh to my care. I had been told that the boy was incorrigible and would pay no attention to his studies, and it proved I was correctly informed. Upon his arrival in Gary he flatly refused to make any pretense of studying and it

was some weeks before I could even induce him to visit Mr. Wirt with me.

"Upon the boy's explaining to Mr. Wirt that he did not consider himself in need of an education as he intended to be a painter, the professor suggested that he come to school and learn how to paint, assuring him that he would not be forced to do anything he objected to. Naturally, the boy, who was never so happy as when dabbling with a paint brush, accepted the suggestion.

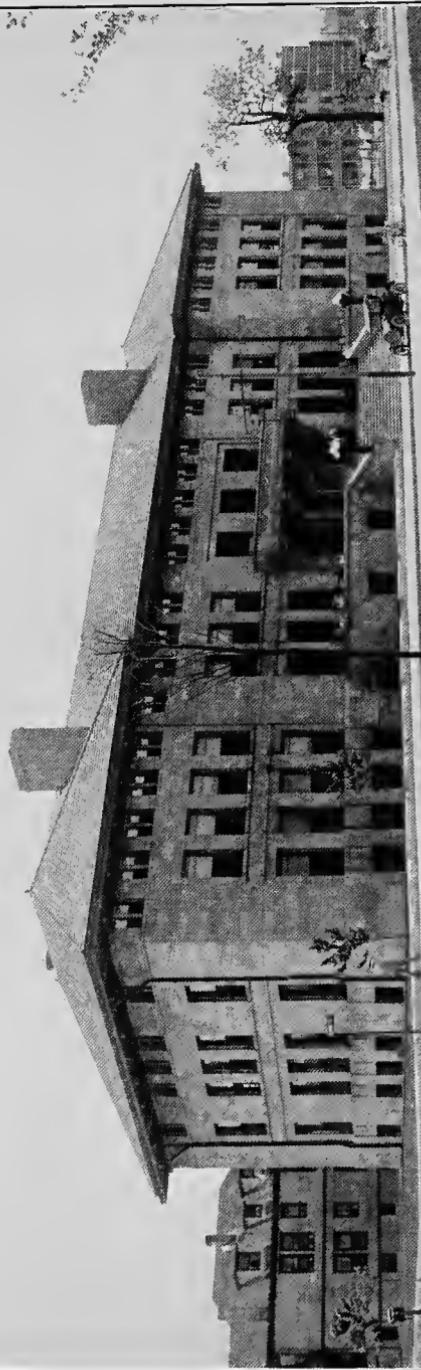
"The first day he was given a pot of paint and a brush and put under the care of the painter, and in a short time he was fairly adept at laying on color. Then, one day, he was informed that some of the classrooms were to be re-decorated in several colors and that he was to have the job, provided he could make a satisfactory bid for the contract.

"That was a stumper. The boy confessed his inability to estimate and, the necessity for a knowledge of mathematics being thus forced upon him, took up the study enthusiastically. Gradually he was brought to appreciate the advantage of other studies.

"To-day that boy would miss his breakfast to get to school. It would take a padlock and chain to keep him away from his studies."

Gary is growing rapidly. Two corporation subsidiaries, besides the Indiana Steel Co., already have plants there. There are the American Sheet & Tin Plate Co., and the American Bridge Co., and the American Locomotive and American Car & Foundry companies plan to erect plants in its suburbs in the near future. The Gary Screw & Bolt Co., a local enterprise, has already constructed a plant for the making of bolts, nuts and screws.

No less than five trunk lines connect with Gary. These are the Lake Shore & Michigan Southern, Baltimore & Ohio, Wabash, Michigan Central, Pennsylvania and Nickel Plate. Smaller roads entering Gary are the



Y. M. C. A. BUILDING. JUDGE GARY'S GIFT TO THE CITY OF GARY

Lake Shore & South Bend Ry., Gary & Southern, Gary, Valparaiso & Eastern and the Gary, Hobart & Eastern. The Elgin, Joliet & Eastern, the corporation road, has a large freight yard near the steel works, designed to accommodate 15,000 cars.

A village in 1906 Gary is now a city of the second class, having attained this rank in April, 1915.

Citizens of Gary are ashamed of only one thing about their town. This, appropriately known as the "Patch" is a small section thrusting itself like a wedge into the business part of the city and giving housing to nearly 200 saloons and a number of dives. The site of the Patch was not acquired by the corporation because of some question regarding validity of title, so the big company had no power of restriction over its development. Gary men say that a means will be found soon to clean up the section, and for the good of the town it is to be hoped that it will.

Built on the Gary model, Morgan Park, a suburb of Duluth, is now being erected to house the workers at the corporation's new mill near that city. The plant, which will be operated by the Minnesota Steel Co., will give work to from 3,000 to 5,000 men so that a fair sized town is necessary for their accommodation and that of their families. The section now being completed has 170 houses and 350 apartments built by the corporation and there is ample space provided for as many additional dwellings.

As the settlement is within the city limits of Duluth the educators of that town will have some say on matters relating to the organization of schools there, but it is planned to erect a school accommodating 1,000 children and to model its method of teaching on the Gary system.

At Morgan Park the mill worker will be able to rent a modern apartment, with every convenience including electricity, at \$3.75 per room a month.

One of the difficulties in industrial towns has always been to adequately provide for unmarried men, who form, roughly, 40 per cent. of all the workers. An innovation is to be tried at Morgan Park where large houses with many club conveniences, but run on the boarding house system, will be constructed. It is hoped by these to give the single men the combined advantages of a club and the domestic atmosphere of a home.

Scattered all over the iron mining regions are a number of small towns which might rightly be categorized as steel towns as the influence of the Steel Corporation is distinctly perceptible in their management, and their leading citizens are, for the greater part, minor corporation officials. In all these towns a note of sanitation, of modern community management is struck and the visitor is pleasantly impressed with clean streets, excellent lighting, neat well kept houses and other things that go towards making a "good" town, notably the scarcity of saloons and other objectionable features.

Nowhere is the contrast between the towns under Steel Corporation influence and others so obvious as in the South. The Tennessee Coal & Iron Co. is responsible for the foundation of a number of small towns and mining camps and these are all exceptionally well managed. In some places are to be seen towns part of which have been built up by the corporation, while part "just grew," and one may recognize without being told just when the line of Steel Corporation influence is passed. A feature of these towns is always the commissary where food, clothes, etc., are sold to residents. These commissaries are in keeping with the corporation spirit of efficiency, which includes sanitation and might well serve as models for stores and markets in larger cities. The Tennessee company has also co-operated with the State of Alabama in providing excellent educational facilities, which include not alone the ordinary school curriculum, but courses in domestic science, etc., both for children and adults.

The problems that confront the corporation in the South are different from those it faces in the North, and must be handled differently. Not the least of these is the color question, which itself is largely responsible for the poorer educational average below the Mason and Dixon line. The management of the corporation's Southern subsidiary, with the full co-operation of the New York management, has set itself seriously to the task of settling these problems and has made wonderful headway, to the lasting benefit of the communities wherein the Tennessee company operates.

Fairfield, Alabama, has been called the South's model industrial city. This town was erected to house the workers at the by-product plant of the Tennessee Coal, Iron & Railroad Co., and the American Steel & Wire Co.'s wire mill, not far from Birmingham.

A more beautiful site could scarcely have been selected for such a purpose than that chosen for the laying out of Fairfield. The work was done by a realty company, independent of the corporation, but acting in entire harmony with it and its ideas, and as a result the town is one of which its inhabitants may justly be proud.

Situated on softly undulating ground, amid the luxuriant foliage of the South, Fairfield offered exceptional opportunities to its builders for achieving artistic effects in its layout, opportunities of which they availed themselves to the full. The town, not far from the heat and dirt of the coke ovens and steel mills, looks more like an exclusive suburb of some large city than a town planned for industrial workers. Its well-paved streets are shaded by green trees, through the leaves of which peep out the fronts of modern houses. Even the modern trolley car running through its main streets, and its equally modern public utility arrangements fail to disturb the peaceful charm. Fairfield has rightly been called "the city of homes."

The H. C. Frick Coke Co. has set itself the task of making attractive the coal-mining towns of the Connellsville region. By the usual corporation methods of sanitation, of making personal and community cleanliness easily attainable it has raised very materially the standard of living in the coal towns, and the standard of management of the towns themselves. It has even managed to make many of these towns attractive—if the reader has even been through coal-mining regions he will appreciate the size of this achievement—by encouraging gardening by means of prizes and so on, and by fostering community pride. It has set new community standards in the coal districts.

To the late George G. McMurtry must be given much credit for the movement for bettering conditions in industrial centers. Over 30 years ago Mr. McMurtry conceived and laid out a model city in the environs of Pittsburgh for the workers of the American Sheet Steel Co. The town laid out by the former head of the Sheet Steel company will stand as a lasting monument to him, though it does not bear his name—Vandergrift, Pa., the first of the Steel Towns.

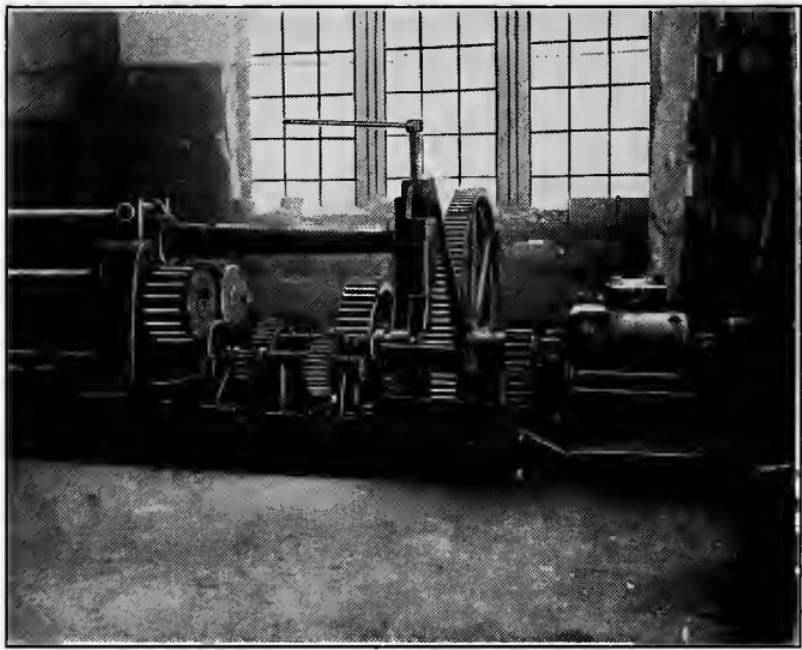


PLATE BENDING MACHINE



SAME AS ABOVE, " SAFETY FIRST "

CHAPTER X

SAFETY FIRST—SANITATION—WELFARE.

AS the world grows older and wiser and civilization progresses, one by one, old ideas are being thrown into the discard, and nowhere is this more noticeably so than in the realms of business and industry. Principles of doing business, one held as cardinal, are now coming to be recognized as immoral, not alone from the human, but from the economic standpoint.

One of these is the old doctrine of "caveat emptor," let the buyer beware. The far-seeing merchant of the present day recognizes that as a matter of policy as well as of honesty he must take upon his own shoulders the responsibility for what he sells. Another principle, which might be styled "let the worker beware," one which laid down the law that the industrial worker was supposed to be fully cognizant of whatever risks were involved in his trade, and to assume these risks himself, is gradually being legislated out of existence, compensation laws of recent years taking the liability off the shoulders of the worker and placing it where it rightly belongs, on the industry.

The United States Steel Corporation's stockholders may justly take pride in the fact that the big company which they own did not wait for the lawmakers to force upon it the assumption of this liability, but accepted it voluntarily before a single State had passed a workmen's compensation act. Prouder, perhaps, that the compensation and relief plan for injured workmen promulgated by the corporation in 1910 has served as a model for a number of States in drafting such legislation and is an exceedingly fair and liberal one.

Although the Steel Corporation, as evidenced by its action in putting into force its compensation plan, gave evidence of its hearty approval of the theory of industrial compensation legislation, the management of the big company is distinctly opposed to certain forms of such legislation, notably State insurance, grounding its objection on the claim that this takes away from the employer all incentive to adopting measures for the prevention of accidents. For compensation, after all, is merely a palliative, not a cure, it does not strike at the root of the disease, and in the final analysis, the important thing is the prevention of accidents so far as possible.

In this the up-to-date employer has gone much further than the legislators. He has gone to the very heart of the industrial accident question by taking what means he might to eliminate, or at least to minimize, the risks incidental to the industry in which he is engaged. He subscribes to the slogan "Safety First," safety even before profits, for he is beginning to realize that accidents are uneconomic and that their prevention, even if apparently costly at the beginning, must pay in dollars and cents in the long run. In other words, the modern employer of labor is becoming convinced that safety methods, or insurance before accidents, are as necessary as are measures to prevent fire instead of relying upon fire insurance companies to make good a loss from this cause.

Although individual efforts to minimize industrial hazards had been made by some companies before the Steel Corporation existed—notably in the case of some of the companies merged into the "Steel Trust"—the corporation may with reason claim the distinction of being the real pioneer of the safety movement. For not only did it organize, systematize and enormously expand the work of the several companies, but it championed the cause of safety before the industrial world.

Through its example, as well as by means of a vigor-

ous campaign carried on by its safety committee, it preached the doctrine of safety first. The largest employer of labor in the world in its adoption of such a policy forced the recognition of the policy upon industry generally, and as a result of the safety campaign started by the corporation in 1906, safety first methods are to be seen in every steel mill in the United States to-day, and, in fact, in a vast number of plants devoted to other industries. The results of the work of the corporation's safety committee are at the disposal of whoever cares to avail himself of them. At its safety museum at 71 Broadway, New York, are received daily letters from concerns in every line of industry, and in every instance an answer is sent giving all the assistance possible for the general cause of safety.

But more than this, the efforts of the corporation have resulted to a great extent in educating the worker to expect and demand that every reasonable precaution be taken to protect him from pain and injury, and his family from the loss of a wage-earner, to seek safety for himself, and to recognize the right of his fellow workmen to it.

From the aspect of liability accidents may be divided into two broad classes. The law recognizes a difference between an injury to a worker due to his own carelessness, or one attributable to his own negligence. But the Steel Corporation, in its accident relief plan, makes no such distinction. It recognizes only that the worker has been temporarily or permanently prevented from earning a livelihood, or that his family has suffered, and it compensates without question for the loss.

So to secure the best results, economically, from its safety campaign, it is obvious that it is not enough for the big company to set up safety guards, warnings of danger and similar contrivances. It is just as necessary that the worker must be taught to take advantage of the safeguards provided him, to regard the seeking of safety as a duty he owes to himself, his family, and his

fellow workmen. In its campaign for the prevention of accidents the corporation has sought to accomplish both these ends, and the educational side of the work has been by far the most difficult.

How much so may be gathered from the fact that, in 1914, after eight years of safety education, nearly 50% of all the accidents occurring in the corporation's mines or plants were distinctly traceable to indifference or thoughtlessness on the part of the men themselves. For the worker is inclined to regard with something of disdain the risks incidental to his work and often regards it as rather cowardly to seek to avoid these risks. Indifference to danger is too often accepted as a hallmark of personal courage, and to the dangers of one's employment as a sign of skill and experience. Just as a small boy will jump on a moving car to "show off," the worker will often incur risks for the same reason. A railroad man will board a moving engine from the middle of the track solely because to do so seems to be accepted as proof of his skill and experience. It is to such causes that a large percentage of industrial accidents are due, and the employer of labor generally finds that the greatest problem to be met in instituting a safety campaign is to persuade the worker that such indifference to danger is childish, and that real skill and efficiency lies in the doing of things in the correct, which is the safe, way.

Safety work may be divided into three parts; organization; safety appliances and devices; education.

It goes without saying that to get the best results in any campaign efficient organization is essential. The Steel Corporation has organized a central safety committee, under whose charge the general work of the prevention of accidents fall. Each subsidiary company also has its own committee on safety, and there are further subdivisions into sub-committees at each mill or mine. It is the duty of the sub-committees to see that all safety rules are obeyed, and to make suggestions for furthering the cause, while the other committees re-

ceive and act upon these suggestions and attend to the financial and other aspects of the campaign. For the prevention of accidents costs a great deal of money, the corporation having expended in ten years something like \$6,000,000 in this work alone. But the necessary funds are never stinted. At the first meeting of the safety committee Judge Gary stated that the corporation would recognize any practical step undertaken for obviating injuries to its workers, and would vote the wherewithal for it.

So as to bring home to every worker the safety idea the personnel of the sub-, or mill committees, is constantly changed, with the view that each worker will take part in the work sooner or later. In 1914 alone, 8,400 men served on the several committees.

The first work of the safety committees, naturally, was to instal devices on machines that had been the cause of accidents with the object of preventing the recurrence of these accidents. The educational campaign came later as it was forced upon the safety workers that the saving of the worker eventually lay in his own hands. Once this was recognized, the educational work was taken up enthusiastically, and to-day forms the most important side of the "boost for safety" campaign.

Print and paint are used liberally to keep the idea of caution ever before the mind of the worker. Safety warnings are posted here and there all over the mills, etc., and at the entrance to many plants there are displayed big signs, electrically lighted at night, on which changing mottoes constantly impress the safety first idea. Blank walls, pay envelopes and other available spaces are all impressed into the work and are used for printing of safety warnings.

In erecting safety appliances the corporation spends yearly approximately \$700,000. Any idea suggested by a workman for the prevention of accidents of however trivial a nature is given a careful hearing, and acted

upon in nine cases out of ten. For the safety committee takes for itself the following motto: "Not only is an ounce of prevention worth a pound of cure, but rather let us have a pound of prevention than an ounce of cure."

These safety devices are too numerous to mention in detail. They run from guards on the handles of wheelbarrows to prevent the crushing of fingers in passing through a doorway, to appliances for derailing a car when there is danger of collision, guards over exposed flywheels or other moving machinery, enclosed ladders to prevent falls, goggles to safeguard the eyes of workers from explosion of metal or flying chips, and subways under railway tracks to eliminate the danger of crossing the tracks of a busy yard.

Although a workman who invents a marketable safety device may secure a patent on it if he desires, the corporation itself never patents, being only too glad to put at the disposal of other employers every means it can to assist them in eliminating accidents. Its management holds that the safety campaign, while good economy, is largely humanitarian, and should not be commercialized.

For several years past the safety committee of the Steel Corporation has been trying to make the safety idea universal, and it has put into use a danger signal which has been adopted by a number of industrial organizations in this country. This signal is a plain red ball, innocent of lettering. It is pointed out that this sign, speaking no language and therefore speaking all tongues, can, by educating the worker of the world, be made understandable everywhere and at all times, and will therefore be especially serviceable in promoting safety among foreign workers. The adoption of the red ball of safety was urged upon the International Convention for the Prevention of Industrial Accidents which was held at Milan some three years ago, and it has been accepted and put into use by such organizations as the

JULY 1913

AMERICANS IN THE MAKING

NOV. 1912



American Iron & Steel Institute, the National Metal Trades Association, National Association of Manufacturers, as well as by a large number of railroads and manufacturing concerns of one kind or another.

The satisfactory results of the safety first campaign are demonstrable statistically. Taking 1906 as a basis, this being the year of its inception, the number of serious or fatal accidents in 1914 was reduced 40.52%, notwithstanding the fact that the figures for 1914 include a number of accidents that were classed as minor injuries in 1906. The table on page 164 speaks for itself.

In eight years a total of 12,822 men saved, by educational work and by the taking of precautions, from serious injury, many of them from death. Probably two-thirds of the number had wives and children, and so eight thousand families were saved from sorrow, from the loss of or injury to their heads. But this is not all. The figures represent the saving accomplished in the mines, mills, and so on, of the Steel Corporation itself. No account can be obtained of the number of men employed by other steel companies, or in other industries, who, by reason of the example set by the corporation, were saved from death or the loss of a limb. And the safety campaign is yet in its infancy. The men who are devoting themselves to it look forward to the day when the only accidents that shall occur will be those that may be said truly to be unavoidable—and the number of men killed or injured in industry will have been reduced to a minimum.

A concrete example of the results of the safety program is afforded by comparing the figures for accidents in the coal mining industry in the United States and other countries with those in the corporation's mines.

DEATHS PER MILLION TONS PRODUCED

	1912	1913	1914
Scotland	3.50	3.68	3.17
South Wales.....	6.53	11.53	6.24
Great Britain.....	4.52	4.91	3.81
United States.....	4.29	4.89	4.81
H. C. Frick Coke Company.....	1.88	1.99	1.02

— ACCIDENTS —

— 1906—1914 INCLUSIVE —

Per Cent Decrease in Accident Rate under 1906. Per 1,000 Employees,

Year	Decrease	Date
1906		
1907		1907
1908		1908
1909		1909
1910	43.49%	1910
1911	41.76%	1911
1912	36.06%	1912
1913	31.79%	1913
1914	40.54%	1914

A change in the system of reporting accidents made Jan 1, 1911, resulted in 177 fewer more accidents being reported and classed as serious than formerly was the case.

TONS OF COAL PRODUCED PER DEATH

Scotland	285,000	271,722	315,283
South Wales.....	153,000	85,207	160,067
Great Britain.....	248,000	203,735	262,736
United States.....	233,000	204,685	208,078
H. C. Frick Coke Company.....	531,328	502,695	975,454

In the three years shown the Frick company produced about 667,000 tons of coal for each man killed, the United States production per death was approximately 215,000, and that of Great Britain 298,000 tons.

Has the Steel Corporation really gained from the enormous expenditures for safety work? That it has got returns in the way of loyalty and increased efficiency can hardly be doubted, but has there been any tangible saving?

The economy in the matter of compensation payments alone satisfies this point. Every injury prevented means so much less compensation paid. A computation made by the Safety Bureau recently, and covering the three years from 1911 to 1913 inclusive, showed that had the same number of accidents occurred annually as in 1906 when the safety campaign was organized, the cost to the big company would have been several millions of dollars more than was spent in erecting safety appliances and for safety educational work in the period.

Nor must one fail to make allowances for the gain in production that is derived from increased safety. In the first place every accident means a more or less lengthened stoppage of work, with a consequent loss. It means the training of a new man to fill the place vacated by the injured worker. In fact, and this will sooner or later be realized by every employer, the injury of a workman is as harmful to the employer as the break-down of a machine. The human machine is no less important than that made of steel or wood.

It is the first step that counts. Once started on the job of saving the employees of the corporation itself from injury the ambition of the men in charge of the

work extended and reached out through the steel trade, then to other industries, and finally to other countries. A traveler in the United States who keeps his eyes open will see frequent evidence of the results of this on railroads, and in various manufacturing establishments, and, as has been told already, the work is being spread beyond the seas.

Nor was this all. The safety workers entered the field of welfare work and systematized what had already been done to better the lot of the worker, not only in the mill, but in his home and community.

Strictly speaking safety and everything else that affects the living conditions of labor is classifiable under the head of welfare. But in practice a distinction is to be drawn between what may be considered the mere duty of the employer to prevent needless accidents—incidentally for his own benefit financially in the long run—and the work that reaches out and by bettering the worker's lot generally benefits his family and the community in which he lives.

And it is a peculiar thing about such work that it grows of its own impetus. Improving the lot of the individual must eventually improve the community conditions surrounding him. It is doubtful if the management of the corporation, when it outlined its propaganda for helping its employees to lead happier and healthier lives realized how far afield it would be carried, how many different activities the work would come to include.

Each step accomplished suggests another and a bigger. As the welfare campaign progresses its workers become imbued with enthusiasm, make more demands upon the corporation's finances to carry out their ideas. And so the welfare program has taken on a broad scope, has a wide horizon, and will have a wider one as time goes on.

Different subsidiary companies handle details of the welfare work in various ways. Local conditions render

this necessary, but the basic idea is the same. What might be done in modern, built to order, Gary, might be impossible of accomplishment in Homestead. Again, the Tennessee Coal, Iron & Railroad Co., having the question of mixed color to consider, must adopt different measures to meet the peculiar conditions with which it has to contend.

In some sections, for instance, community visitors are appointed to investigate cases of destitution or illness, and to instruct the wives of workmen in hygiene, cooking, and the general care of their homes and families. In others schools are maintained for the same object.

A very promising forward step was taken not long ago by the Oliver Iron Mining Co., which built at Ishpeming, Mich., a "rest house," where the wives of workers, if broken down in health, might enjoy a vacation in healthy and congenial surroundings without cost.

The modern educational methods of the newer steel towns was told in a previous chapter. But educational work is everywhere considered one of the most, if not the most, important of safety measures, and wherever the Steel Corporation establishes itself, there it either establishes schools or, if schools already exist, endeavors to assist in the work of education by starting special classes for adult, such as classes in English for foreign workmen, and classes for technical or even scientific instruction. In some plants there are buildings entirely devoted to such studies.

All work and no play makes Jack a dull boy. Recreation, the necessity for exercise of mind and body, is given an important place in the welfare propaganda. In many steel communities the corporation has erected club houses, libraries and gymnasiums, and has provided swimming pools, and even baseball grounds. Many of the mills have their baseball teams and private grounds for them.

Work among the children is given a very prominent place. In 1910 Taylor Alderyce, first vice-president of

the National Tube Co., was struck with the happy thought that a small area of waste land in one of the plants could be given over to the children so that they could play in safety and out of the streets. The idea was seized upon avidly by the officials of the other companies and the welfare committee, and was soon in general use. There are now 128 of these playgrounds, and an average of 16,619 children made use of them daily during 1914! These playgrounds are equipped with swings, slides, and other devices dear to the young. In some cases they are situated in the plant proper, in others, where more room is available, big open spaces outside the plants are devoted to the amusement of the children. And in every one of the newer steel towns one of the first matters taken care of has always been the location of a suitable playground for the youth of the community.

Welfare work in the mill proper includes sanitary measures such as "comfort rooms," bath houses, sanitary drinking fountains, electric fans at points where there is great heat, and other measures of a similar character. Broadly speaking the effort is to minimize all the risks of the industry, not only to the safety, but to the health of the employee.

The H. C. Frick Coke Co. encourages its employees by prizes, etc., to cultivate vegetable and flower gardens, for economy and beauty. Out of 7,477 employees of the company having homes, 92% cultivated gardens in 1914. The vegetable gardens numbered 6,633 and their average value was \$21.48, a total of \$142,536.

It might be difficult, perhaps impossible, to demonstrate statistically that welfare work, as distinct from safety work has paid; that the corporation has received a tangible return for the millions it spends yearly to give its employees an opportunity to live cleaner, healthier, happier and broader lives. Nevertheless, I believe that no work that has been done for this object has failed to give a return, full measure and overflowing.

In the end, all welfare work, whether it be in the salvation of the worker from accidents, the teaching of individual or community hygiene, the care of the sick, the financial care of the injured, the teaching of language, trades, sciences, has for its object the making of better men and women, the giving to the worker born under unfavorable social conditions the opportunity to raise himself above those conditions. And in the using of this opportunity by the worker the employer is bound to benefit.

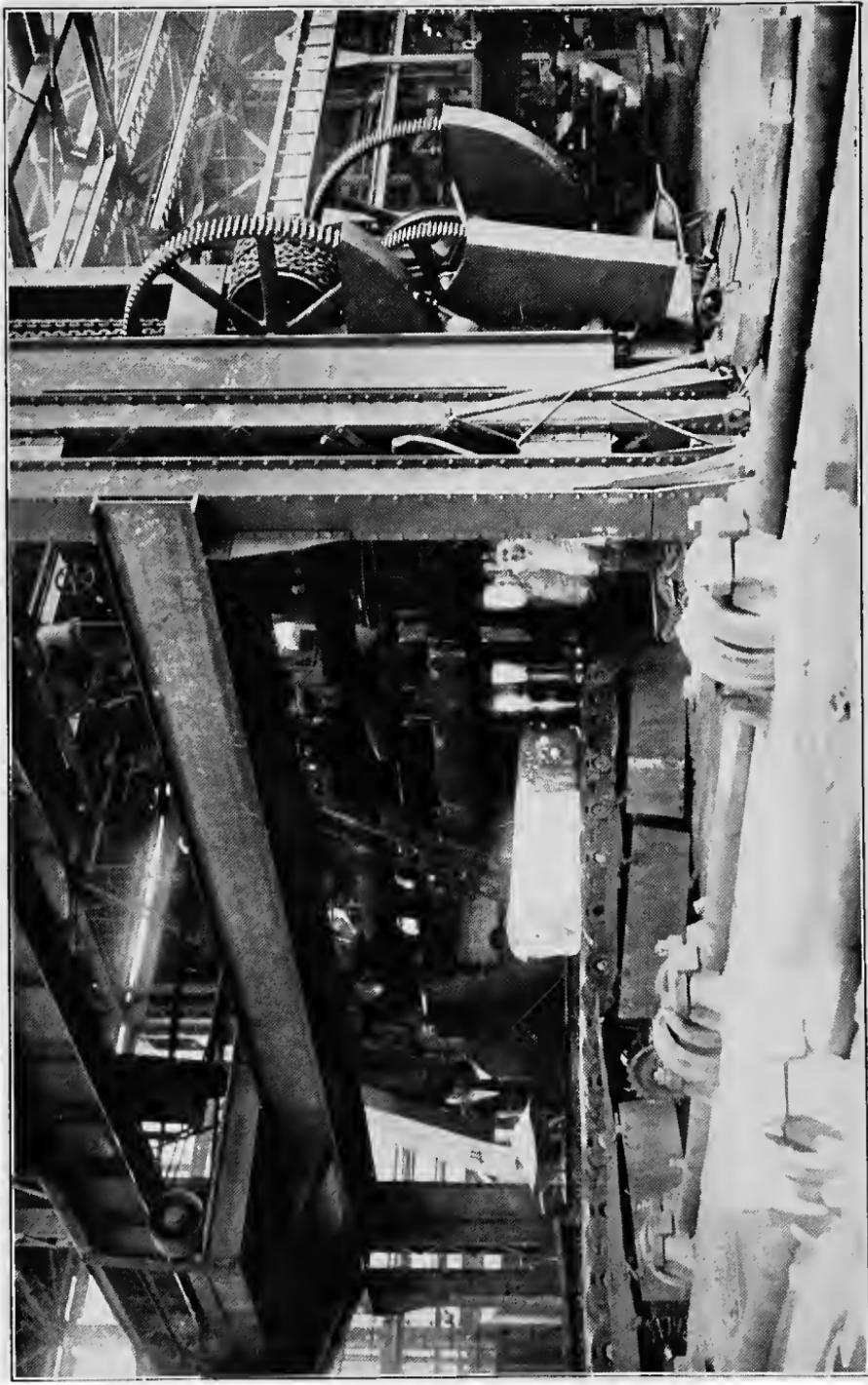
But, every other consideration aside, the work has paid in the satisfaction that the management and the stockholders of the great industrial enterprise feel in it, in the knowledge that by setting the lead in advancing the interests of the man who works with his hands, they have given millions of men, not in the corporation alone, but in industry generally—for the lead has been followed—better working conditions, cleaner homes and communities, and better educational facilities for their children. In the satisfaction of knowing that, by the welfare work, better citizens are being made, and finally in the knowledge that the work has helped to a great extent to bridge the chasm that separates capital from labor.

Sooner or later the time must come when it will be recognized that what is known as "welfare work" is a simple duty that industry owes to labor. If it is not freely accorded, the working man will eventually demand that his work and his home be surrounded with those things, tangible and intangible, that make for decent citizenship, for self-respecting manhood.

By following the lead of the United States Steel Corporation in recognizing without compulsion these rights, industry as a whole will go a very far way towards smoothing away the differences that now exist between capital and labor. This is one of the things it must offer as an evidence of the claim it has so often made that the real interests of the man who works with his hands and

of those for whom he gives his strength and his energy are identical.

Welfare work is the humanizing of industry. By its aid the employer can do much towards eliminating labor unrest and bringing about an era of good will between employer and employed.



INGOT ABOUT TO PASS THROUGH SLABBING ROLLS

CHAPTER XI

QUESTIONS OF POLICY.

WHEN Bertrand du Guesclin, the great French hero of the Hundred Years War, was captured by the British and brought to England a prisoner and his ransom set at one million crowns, a princely sum in those early days, more than half the amount was immediately subscribed by his natural enemies, the English who had fought against him. It was intended as a great tribute to Bertrand's character, and it is unlikely that another such instance can be found in history.

And no better proof can be offered of the essential fairness of the U. S. Steel Corporation's methods of doing business than the fact that, in its hour of trial, when the Government of the United States was seeking to disintegrate it, its competitors, the men who met and fought it for industrial success, came forward practically in a body to its defense and testified that its dealings with them and with the public had always been fair and honorable.

The organization of the U. S. Steel Corporation marked the end of an era in the steel trade, and was also the beginning of a new epoch in industrial history. This era was that wherein each man's hand was against his brother. When the principle on which each steel maker worked, to paraphrase a well known piece of advice, was "Sell steel, honest if you can, but sell steel."

It was the beginning of a period of square and open dealing. The management of the big company had the foresight to realize that a new day was dawning, and to help to make the morning of that day brighter, it adopted the policy of candid treatment of competitors, the principle of co-operation. It sought to make friends rather than enemies of its competitors. The task was a hard one, for the trade had too long been used to fear

gift-bringing Greeks, to view with suspicion every unhostile action of a competitor, to believe that business could possibly be done on the higher plane adopted by the new consolidation. Live and let live was then unknown in business. But gradually these fears were overcome, and the steel trade changed, or its methods did.

The Steel Corporation was an evolution. It was the natural result of the integration in industry that had been going on for years. In it was concentrated into a single organization all the processes of steel making from ore mining to the most highly finished products of all kinds, including transportation. The evolution, however, was not merely a physical one. The big company stood for the development along lines of modern thought, of business methods and practices.

It was a fortunate thing that the corporation, from its organization, had as its chief executive officer a man far-sighted enough to see that so modern and especially so vast an enterprise must abandon unfair practices, and methods that, even if fair legally, were hardly so morally, if it would live itself; a man big enough to realize that with corporations as well as men it was "glorious to have a giant's strength, but tyrannous to use it like a giant."

Indeed, Judge Gary found it no easy task to persuade some of his colleagues on the board of the big corporation to consent to the course he advised in dealing with competitors, a course which, incidentally, he himself follows in his dealings with individuals—if there is any question of what is fair and just give the other fellow the advantage.

And his advice was the harder to follow in that the laws of the United States made it exceedingly difficult to steer a middle course between the shallows they themselves create. The corporation, to obey the law, was bound to engage in active and sustained competition with other steel makers, and at the same time was

bound to refrain from any act which might be interpreted as an attempt to take advantage of its great size and resources to overdo this competition.

In its answer to the Government suit the corporation claimed that, far from restraining competition, it had fostered it, and many of its competitors themselves swore to the truth of this claim. But it remained for the court, in summing up, to give facts and figures of the growth of competitors which fully and completely substantiated the claim. The court declared that the proofs showed that the corporation's business from 1901 to 1911 had increased over 40%, but that in about the same time the Bethlehem Steel Co. had shown a gain of 3,780% in business, the La Belle Iron Works of 463%, the Jones & Laughlin Steel Co. of 206%, the Cambria Steel Co. of 155%, the Colorado Fuel & Iron Co. of 153%, the Republic Iron & Steel Co. of 91%, and the Lackawanna Steel Co. of 63%, to say nothing of the rise and expansion of entirely new companies during the same period.

For many years, ever since the period of consolidation in manufacturing and other industries began, big business has been viewed with suspicion and something of hatred by the mass of the people—and by no means without cause in many instances. There is no question but that the powers that controlled more than one great industry used their resources to crush their competitors and even used their money and influence for political purposes. It does not require any argument to convince the unprejudiced mind that the effects of such acts were inimical to the good of the nation, and it was perhaps natural that the stigma that attached to some for this cause was used by demagogues and others, often sincere enough, against all big business, and as an aid to themselves politically. In short, "smash the trusts," became the great vote catching slogan.

No wonder, then, that the Steel Corporation, the largest and most powerful of all so called trusts, was a

shining mark for such attacks. No wonder that the man in the street, looking to his leaders for guidance in such matters, was easily persuaded that the giant company was necessarily a menace to the body politic.

Apparently this it was that Judge Gary foresaw when he insisted that the corporation at whose helm he stood must so conduct itself in all dealings with its competitors and with the public that it could at any time prove that its hands were clean; that it used its power not destructively, but constructively, for the good of all affected by its actions—and this means the good of the whole people.

The very life of the corporation depended upon this. So Judge Gary evidently saw. And time has proven the accuracy of his judgment. It is safe to say that, had the corporation misused its power it would have been picked out many years before it was for legal attack, and the attack would have been successful. The vast weight of public opinion, thrown in its favor in the suit recently decided in the lower court, would have been massed against it, and the suit itself, so far eminently satisfactory to the corporation management and the stockholders, would have been instituted earlier. The corporation would not have been in existence to-day.

To the lay mind it is strange that the so-called Gary Dinners, the principal example of the corporation's attitude toward its competitors, should have been criticized by the courts. The criticism, however, appears to have been based largely upon a technicality, as the court practically admitted that there was no intent on the part of Judge Gary or his associates to restrain trade at these functions. In fact, the cause of complaint seems rather to have been certain meetings held in Pittsburgh that grew out of the dinners, meetings at which the Judge was not present, than the dinners themselves and what occurred there.

In its opinion the court said on this subject:

"We think it likely that if this first meeting (the first

of the Gary Dinners) had not been followed by others and by the appointment of committees to continue the association (loose as it was), that resulted from that meeting, no complaint would have been heard from the Government."

And again: "It is only fair to add that in our opinion the participants in this movement did not intend to act illegally. No doubt they intended to exercise their full legal rights; but, of course, such exercise could not be wrong, and they believed they had succeeded in keeping within the proper limits. For the reasons given, we think they were mistaken, but we acquit them of trickiness or attempted evasion."

And the minority opinion: "The first Gary Dinner was given on November 20th, 1907, to meet an unquestioned exigency arising out of the panic then existing. * * * The dinner was given in order to devise ways and means to prevent calamity to the (steel) industry. Ways and means were found which, no doubt, contributed greatly in preventing disaster not alone to the producers of steel, but also to those intermediate consumers who were carrying large and costly supplies. The ways and means consisted then of nothing more than the urgent request of a strong man, that in the stress of panic all should keep their heads, and avoid the consequence of reckless cutting of prices. In this the others acquiesced, and in the light of the emergency then existing and the disaster averted, I am of opinion that the purpose and conduct of those who participated in the first Gary Dinner were not unlawful, improper or questionable."

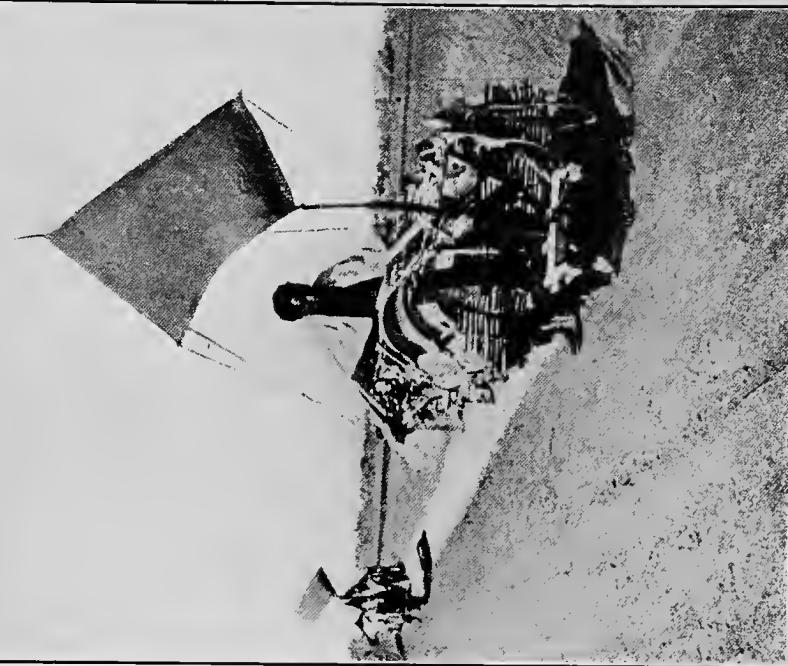
The Gary Dinners! Feasts that will rank in the business history of the United States as did the feasts of Lucullus in epicurianism or Cleopatra's dinner to Anthony in romance. Occasions where the heads of the steel companies of the United States gathered at the festive board in amity and good will to consider and discuss a situation that threatened not themselves alone,

but the country at large. Where these titans of industry, only a few years before mortal enemies, met as friends and openly and without fear discussed with one another the intimate details of their businesses.

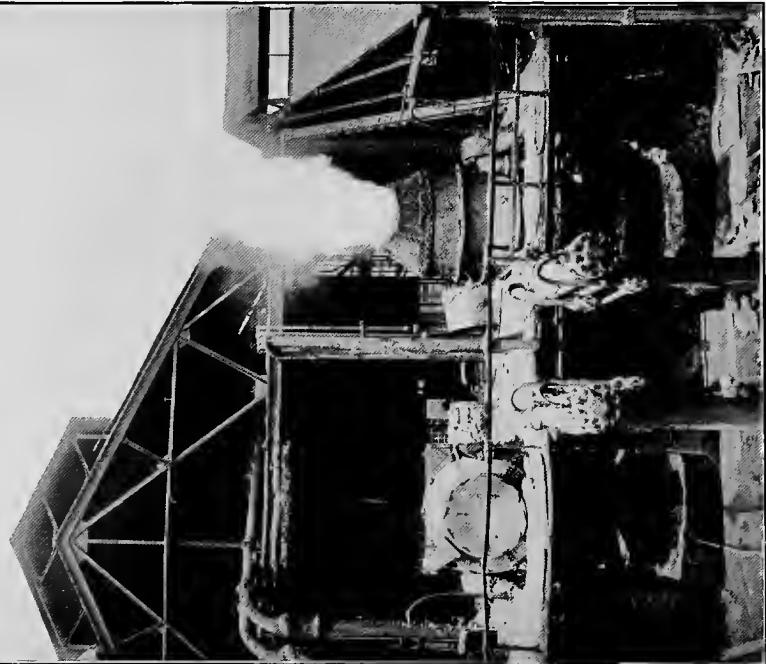
It was right after the first great shock of the panic of 1907. The country was still trembling from the effects of the great financial disaster, and no man knew surely whether the worst had been passed, whether financial and industrial chaos had been staved off, or not. The storm clouds had not passed away, and the men engaged in the steel and iron business, truly called the barometer of trade, having on more than one previous occasion—many of them at least—seen a similar situation lead to years of distress and of prolonged industrial depression and unemployment, in a word to what the trade knew as soup-house days, had especial reason to be fearful of what the immediate future held for them and the concerns with which they were associated.

Nor were these panic fears confined to the steel giants alone. In fact, the smaller manufacturers, the jobbers and the retailers, having generally smaller resources, were in much worse case. Most of these latter were piled up with heavy stocks of steel which they had purchased during the boom in the earlier part of the year, and a sudden drop in steel prices would have meant not alone the wiping out of all hope of profit, but certain bankruptcy for a large percentage of them.

To the head of the biggest of the steel producers, then, all eyes were turned. Judge Gary was deluged with letters from all quarters asking him to use all his power and influence to help weather the financial tempest. Naturally, it was very much to the interest of the Steel Corporation, as well as of other steel manufacturers, to do all that was possible to prevent the failure of the steel middlemen. Not only would bankruptcies have meant the drastic cutting down of accounts due, perhaps their total loss in some cases, but each fail-



TRANSPORTING STEEL IN CHINA. IN MANY PARTS OF THE CHINESE EMPIRE FREIGHT IS CARRIED ON WHEELBARROWS CARRYING SAILS. WITH A WIND FROM ASTERN GREAT SPEED IS OBTAINED BY THESE PRIMITIVE FREIGHT CARS



BESSEMER CONVERTER IN OPERATION

ure meant the loss of a customer. These things the steel men knew from past experience.

One thing above all others seemed to be needed, the great essential in panic of every kind—that those concerned should keep their heads, should remain cool and face the danger steadily, and with the strength of unity. A leader was needed, and a strong one, and Judge Gary, head of the Steel Corporation, was looked upon to assume the post, which he did. To Judge Gary it seemed that the first and essential step was to bring the steel producers together and to explain the situation to them, pointing out that the only hope of salvation was in coolness and unity.

So he wrote a letter to practically all the large steel producers inviting them to a dinner at the Waldorf-Astoria, in New York, on November 20, 1907. The response was very nearly unanimous, and on the evening of that day there gathered around the table in the ball room of that hotel the representatives of concerns producing more than 90 per cent of all the steel made in America, as well as the representatives of some Canadian companies.

At the proper time the host explained the object of the meeting. What he said can best be related in his own words:

"I stated the purpose and object of the meeting were if possible to prevent the demoralization of business. I stated that the first object of the meeting was to secure a better acquaintance with each other, and come into close contact in order to know one another, hoping that we might deal with and towards one another as gentlemen and not as enemies. That the purpose was, if possible, to prevent demoralization of business, to secure as far as practicable stability of business conditions, as opposed to wide and sudden fluctuations, to prevent, if possible, failures on the part of our customers, and to comply with their wishes in every respect, to prevent, if we could, a long continuance of the panic,

which meant failures to a great many people and manufacturers themselves, because of their debts at the banks or because of their commitments for extensions, and to customers because of the large stocks they had on hand, the sudden change in the prices of which might be very damaging, and so far as we properly could, to maintain, or to assist in maintaining business conditions generally, the opposite of which should be deplored.

* * * * *

"I stated distinctly * * * at that time that, as they all understood, we could not make any agreement, express or implied, directly or indirectly, which bound up to maintain prices or restrict territory or output; it must leave us free to do as we pleased, and must rely upon a disposition of all others to do what they considered fair and right, and for the best interests, not only of themselves, but all others who had any interest in that or any other work. I made that perfectly plain."

Judge Gary's remarks made a profound impression, and his hearers unanimously agreed to adopt the means he suggested for obviating the worst of the panic dangers. Resolutions creating a general and several sub-committees were made and passed and the meeting adjourned, subject to call.

Following this dinner similar sessions were held in January, April, May and December of 1908. The December feast was the last of the Gary dinners proper, although some meetings were held subsequent to that time.

Were prices fixed at the Gary dinners? Let us settle this point, as it was one of the chief things charged against the corporation in the Government suit, and is the question on which the ethical morality of the holding of these dinners rests.

At the first of the Gary Dinners the host explained that the fixing of prices was forbidden by the laws concerning restraint of trade, and that nothing could or should be done which would not conform in all ways

to the law. Yet it is plain that the effect of these dinners was to stabilize price for steel. It does not appear that there was any definite agreement between the different interests represented as to what question they should ask for their products, but it is obvious that the mere statement, between gentlemen, that one intended to adopt a certain course in regard to prices tended to influence his colleagues to follow a similar course. It must be suggested, nevertheless, that there was never any question of restraint, as all were free to act as they saw fit, and it seems that on some occasions there was not even absolute agreement. At the worst the participants at the Gary Dinners stretched the interpretation of the law a little to do a great right—the financial salvation of the steel industry, which remember, was and still is, the leading industry of the country.

What was the result of the Gary Dinners. Simply that, whereas in previous panics gravestones of steel producers and middlemen had been numerous, not one important failure in the trade was recorded as a result of the 1907 panic. There is no question that this was due to the leadership of the head of the Steel Corporation.

Early in 1909—on February 18—another meeting of the steel leaders was held, this time taking the shape of a luncheon. This occasion, in a sense, was the formal breaking up of the Gary Dinner program, as it was then that Judge Gary, satisfied that several of his competitors had departed from their intention to maintain for themselves respectively stability of business and prices, announced that the Steel Corporation would in future “go it alone.” That it would get what business it could and would not divulge its affairs to competitors. This was followed by the so-called open market in steel which sent prices down to a very low level.]

And here might be inserted an interesting fact. Orders were sent out to the various sales managers of the

different corporation subsidiaries that they were to go after business and get all they could, orders particularly welcome to those who had longed for the flesh pots of Egypt, the old Carnegie methods, and who believed that the big company could force its competitors to the wall by such a course. A vigorous campaign for orders followed, both on the part of the corporation subsidiaries and the independent companies, but the result went largely to prove that the big company did not have the power which its enemies claimed it had, of crushing competition. In the words of Colonel H. P. Bope, vice-president and sales manager of the Carnegie Steel Co., and a graduate of the Carnegie steel school, the result of the 1909 sales campaign was a disappointment to him, the corporation failed to cut into its competitors' business, losing a little to them in some lines as a matter of fact.

There was yet another dinner to come. On October 15, 1909, the steel makers of the United States and Canada joined together to honor the man who had first called them together during the stirring and dangerous panic times two years previous. The leader of the movement was Charles M. Schwab and many of the most prominent men in the trade made speeches in honor of the guest of the evening. It was, as Mr. Schwab said "the first time when the heads of all the big concerns in the United States and Canada had gathered to do honor to a man who has introduced a new and successful principle in our great industry."

T. J. Drummond, vice-president of the Algoma Steel Corporation, in his address defined this principle as the doctrine that "what is good for my competitors is good for me."

Referring to the Judge Gary leadership in the trying times the trade had passed through Mr. Drummond said: "Always the voice of our leader rang strong and clear, 'Steady, boys, and play the game.' And by the Lord, you played and played it fair."

A beautiful cup of gold was presented to the Judge by his steel colleagues at this, the very last of the Gary dinners.

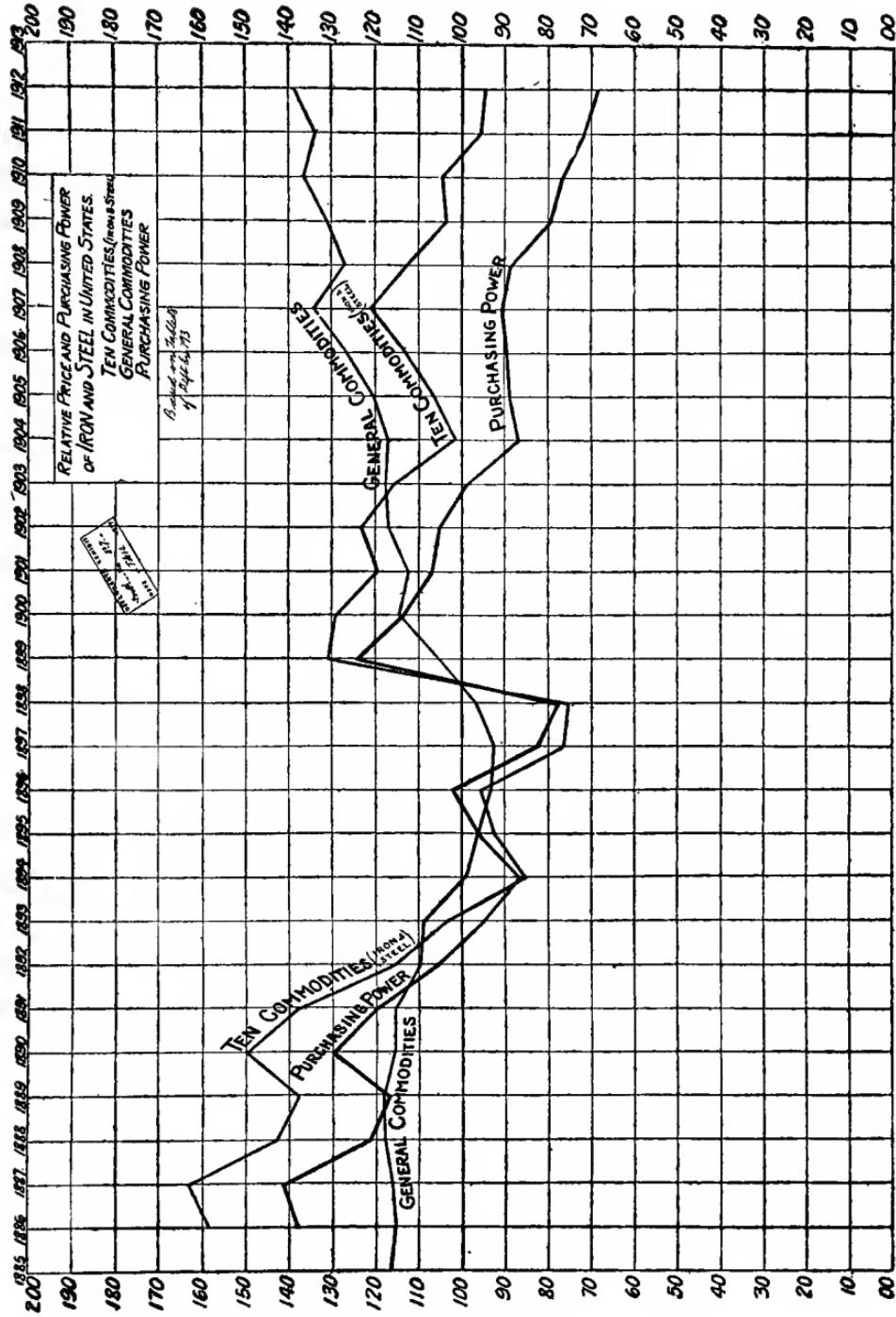
The question of price restraint, or the corporation's influence in maintaining or depressing the price of steel is suggested naturally by that of price fixing at the Gary Dinners. This question is one seriously affecting the corporation's existence,—being interwoven closely in that of the treatment of competitors. Getting down to basic facts the principal objection of the man in the street to trusts or monopolies is that the securing of unchallengeable power by one concern in any industry is likely to lead to higher prices or lower quality, either of which would swell the profits of the monopolistic corporation and would harm the public. It is therefore important to consider the corporation's general policy in the matter of prices.

During the steel dissolution suit a number of competitors and of steel consumers testified that the big company had always endeavored to "steady" prices, a fact evidenced by the very holding of the celebrated dinners. That it had always been the last to advance, and was equally loath to reduce. They agreed, however, that the steady influence was brought to bear, not to keep prices at levels where enormous profits could be reaped, but rather at such quotations as gave the manufacturer only a fair and equitable profit on his investment, evidenced by the fact that the corporation, unlike many of its competitors, fixed an approximate high-water mark for prices in boom times, and made no attempt, in fact refused to sell above these, although they were much lower, to use a phrase made familiar in the old days of railroading "than the traffic could bear." These witnesses also asserted that the tendency of prices since the birth of the Steel Corporation had been downward and finally that the quality of the product, and these were men qualified to know whereof they spoke, had been appreciably bettered.

In its decision the U. S. Circuit Court of Appeals, which a few months ago absolved the corporation from the charge of attempted monopoly in restraint of trade, pronounced itself as satisfied that the corporation did not have the power, even if it wanted to, to force prices to an abnormal level. The court found it proven that steel prices could not be advanced arbitrarily above the level quoted by any important competitor in the field, and that the so-called independent companies were themselves too large, and too powerful to be forced to the wall by the methods that have been employed by some "trusts" to secure monopoly.

Regarding the question of the course or tendency of prices the testimony of Professor Jeremiah Jenks is particularly illuminating. Professor Jenks, whose reputation as an economist is world-wide, verified and explained charts previously put in evidence showing that the purchasing power of steel, the real price obtained by what is known as the index system recognized by economists at the best test of price fluctuations, had decreased decidedly between the date of the organization of the corporation and the time of the steel suit, as compared with a similar period before the birth of the corporation. The same table showed, that apart from the economic test and merely on the basis of actual prices received, the average prices of steel and iron in the same period had declined slightly between the same periods.

From all of this evidence the observer must conclude that the policy of the Steel Corporation has not been to inflate prices or to depreciate quality, and that it has been its endeavor to give the consumer the best steel possible for the smallest amount of money compatible with decent profits. Incidentally the lower prices of steel shown by Professor Jenks' charts were made in the face of advancing wages amounting altogether to over 27%. And labor forms the most important item of expense in steel making. The chart on opposite page, a copy of one of those testified to by Professor Jenks, is illuminating and needs no explanation.



Important among the policies of the corporation, in its dealings with the public, has always been publicity. The organization of the big company was marked by open dealing, all details of the proposed merger being published widespread before the deal was carried through. And ever since the corporation began its existence the policy of keeping the public and its stockholders informed as to its actions and business has been adhered to. The results of the Gary Dinners were promptly given to the public press; and there is testimony in the record in the Government case that the Department of Justice of Washington was always kept fully informed. Moreover no complaint was ever made by any one of the "Gary Dinners" until the Stanley Committee intimated an illegality, after which it has never been claimed there was any such dinner or meeting.

Almost since the date of incorporation it has been the custom to issue quarterly a report of earnings showing the results of the operations of the three months covered. These reports are issued on the last Tuesday of the month following the quarter covered in the report. On the tenth of each month a statement of the unfilled tonnage on the corporation's books is issued from the head office, and in other ways the stockholders are kept informed as to what is going on in their company.

Annual meetings of the Steel stockholders form a decided contrast to those of many other companies. One is accustomed to look upon the annual meetings of corporations as mere formalities attended by a few officials with perhaps a lone stockholder not holding office; and reticence in discussing the company's business or policies is the general thing. But the Steel meetings are always well attended and stockholders are encouraged to discuss fully the affairs of their company, and to criticize to their hearts' content. Chairman Gary is ready and willing to explain at length on any issue raised, and

the whole effect of these meetings is one of openness, of candor.

How ready the management of the big company is to meet criticism halfway is illustrated by the events at the annual meeting in 1911 when a stockholder moved that a committee be appointed to investigate the condition of the steel workers in the corporation's mills and to report thereon, suggesting such remedies for evils they might find as seemed wise. The mover particularly criticized the twelve-hour day and the seven-day-a-week schedule of labor. It was questionable whether the mass of stockholders present, having absolute confidence in the desire of Judge Gary to give at all times the fairest possible treatment to the worker, would have carried such a motion, but Judge Gary himself, holding proxies for the majority of the stock, voted all this stock in favor of an investigation, and a committee was appointed. Thus did the management of the corporation give proof of its readiness to face investigation and to answer fully and satisfactorily any honest criticism, just or unjust.

The attitude of the corporation's management in the matter of publicity, it seems to me, is simply that the company's vast size and the number of its stockholders, as well as the army of men it employs and its influence upon industrial conditions generally, render it in a sense a public institution, one in which there is an enormous amount of warranted public interest, and that this interest should be satisfied. That so great a company must work in the open, all its actions being able to bear the full glare of daylight.

Up to the time of the corporation's organization publicity on the part of big industrial enterprises was almost unknown. Certainly steel makers did not show any desire to take the public, or even the small stockholder, into their confidence in regard to details of their business. The immense profits made by the Carnegie company were not revealed until the Carnegie-Frick quar-

rel caused their revelation. But all this has been changed and the necessity for full reports to stockholders and to the public at large is recognized by the corporations themselves. Steel companies, in particular, give detailed information of their earnings, operations, etc., at least once a year, and in some cases every quarter. And this is doubtless due to the example of the corporation.

Sooner or later all big business must fall into line in the matter of publicity. For the leaders of business thought are coming to recognize that secrecy breeds suspicion and enmity, while openness makes friends. And they will all follow—as many have already done—the example of the Steel Corporation of doing business in the full glare of daylight.



CHARGING OPEN HEARTH FURNACES

CHAPTER XII

INVESTIGATIONS AND THE DISSOLUTION SUIT.

AN immensity from its conception, an undertaking so vast that its actions and policies, good or ill, reflected their results for the industrial weal or woe, not of a single community but of the whole American people; conceived and born, further, at a period when the thoughts of the nation were directed toward the menace that was believed to exist in trusts against the body politic and when politicians and economists were bending their energies towards a study of the question of big business, it was but natural that investigations of one kind or another, but all directed towards the one end of finding out whether the big company's existence was a danger to the country or not, should have played an important part in the history of the United States Steel Corporation.

Perhaps no other organization has enjoyed or been subjected to so much—and generally such unconsidered—criticism as has the Steel Corporation. Even the Standard Oil and the American Tobacco companies, big and prominent as they were and as much as they have been attacked for their methods of eliminating competition, have failed to strike the public imagination as forcibly as the so-called Steel Trust. There were two main reasons for this. To the mind of the student of economics the activities of the Steel Corporation bore more importance to the public welfare because of the part that steel plays in making or unmaking the prosperity of the country, the importance of iron as one of the resources of the nation. The steel trade is the industrial barometer of the country and

this is because steel enters into almost every line of activity. So far as the public was concerned the very size of the corporation constituted its weakness. Its billion dollar capitalization captivated the imagination, compelled attention. What men do not understand they are apt to fear, and how many can understand the import of such a vast sum?

And because it was so easy to inflame the public imagination with the very mention of the "Steel Trust," the corporation became a shining mark for the attacks of demagogues who recognized in it an excellent net for snaring votes.

This does not mean that all the attacks on the big corporation have been the work of demagogues. Some have been originated by men entirely sincere in their conviction that so great an enterprise was inherently dangerous to the well being of the country at large. But it was generally overlooked that the power to do harm implies an equal power to work good, and the question resolves itself in the final analysis to an individual one. What were the powers of the Steel Corporation and how were they used? The investigations, ending in the suit for the dissolution of the "Steel Trust" have brought to the light of day all the actions of the big company, have submitted them to the glare of pitiless publicity and the vast industry has been judged not alone in the courts but at the bar of public opinion. What have been these investigations, why were they instituted and what have they resulted in?

On June 18, 1898, an investigation into the question of trusts and their relation to labor and, in fact, their effect on the country generally, was decided on by resolution of Congress. A committee, known as the Industrial Commission, was appointed to make the investigation. This commission was composed of five members of the Senate, five members of the House of Representatives and nine others, assisted by a large corps of experts in economics. The committee did not

finish its work until the later part of 1901, its report being presented on December 5 of that year. So that the corporation began its existence during the life of the commission and came in for a certain amount of study on its part. As the report, generally speaking, was an academic one and as it dealt very little with the corporation, it may be passed over here.

The first investigation bearing directly upon the methods or practices of the Steel Corporation was begun during the administration of President Roosevelt. James R. Garfield, appointed Commissioner of Corporations in the Department of Commerce & Labor when the department was instituted early in 1903, was instructed by the president to investigate various large corporations and in the course of this work he directed his attention to the steel trade. About 1905 Mr. Garfield began an investigation of the corporation and the work was carried on until some years after he had resigned his post and become a member of the Roosevelt cabinet. The report of the Commissioner of Corporations on the steel industry was made by Herbert Knox Smith, who held the post under President Taft.

Approximately two years were spent by Mr. Garfield in this investigation. Some years later, testifying under oath, he stated that the management of the corporation had put no obstacle in the path of the investigation, but that on the contrary Judge Gary had ordered that all information he demanded be given. Further, Mr. Garfield said that the head of the big company had asked him to inform him if anything contrary to law was discovered during the investigation as it was the desire and intention of the management to meet the law fully and to correct any abuses if they existed. Mr. Garfield, apparently, could find no cause of complaint, for he reported to the President that he had discovered nothing that necessitated that the Department of Justice be informed with a view to instituting proceedings.

Further, Mr. Garfield declared, in questioning com-

petitors of the corporation, steel consumers and railroad traffic managers, he had found no indication of the crushing of competition which would have been revealed by complaints of competitors as they had been in the case of other "trusts," no signs of discontent among consumers and no evidence of rebating, used by some big concerns as a powerful weapon in eliminating competition.

On July 1, 1911, the report of Mr. Smith was submitted, through Secretary of Commerce and Labor Charles Nagel, to President Taft. Mr. Smith's report was an exhaustive and complete study of the corporation. One may find fault with his conclusions, but the work is without equal as a compendium of facts and statistics regarding the corporation.

On the whole the Smith report was unfavorable to the corporation, although the Commissioner made no claim of suppressed competition. His criticisms were leveled principally at the big company on the two points of overcapitalization and the matter of the Hill ore lease.

Mr. Smith claimed that the tangible assets of the corporation at the time of its organization were \$682,000,000 against which \$1,400,000,000 of securities were issued. At the end of 1910, he said, tangible assets had increased to \$1,187,000,000 and securities issued to \$1,468,000,000.

The reader will remember that, in an earlier chapter, it was pointed out that the overcapitalization of the corporation did not admit of doubt, an assertion proven by its practical admission by the management of the corporation who put \$500,000,000 of earnings into new construction for no other apparent reason than to equalize capitalization and property values. Yet I believe that Mr. Smith's figures are somewhat too drastic. Some of the reasons for this belief have been stated before, but it is pertinent to point out that, in the 1910 valuation, Mr. Smith indicates the main point of divergence is that of ore reserve values and on this point it would

be safe to say that the mass of opinion in the steel trade, that is the mass of competent observers, would support the corporation's figures.

That Mr. Smith's criticism of the Hill lease was well taken seems to be proven by the decision of the directors to abandon the lease, although another reason for this action was to be found in the gradual decline in the metallic content of the ore. Yet the question as to whether the undertaking of the lease was intended, as Mr. Smith thinks, to keep out competitors, or merely to secure a safe ore reserve for the corporation, must always remain a matter of opinion. As the corporation's entire history fails to indicate a desire to crush or to keep out competitors it appears only fair to give it the benefit of the doubt in this instance. On one point, however, the lease is open to criticism; it seems to have been an error of business judgment.

But the work of the Commissioner of Corporations was being done quietly, and in the meanwhile the public were being kept keenly interested in the trust question and politicians were waging active war against the trusts. The evidence brought out in the Standard Oil and Tobacco suits served to inflame public indignation against big business generally and "hit the trusts" became almost a slogan for political advancement. It was no wonder, then, that the "Steel Trust" should be criticised and it should be questioned why no action had been taken against it, the obvious answer, that it had not violated the law, being one which would hardly have satisfied the masses and certainly one that politicians were not going to advance under the circumstances. Public sentiment on the trust question, moreover, was being kept at fever heat by a certain class of publication, and it was small wonder that so rich an opportunity was seized upon by politicians. On May 4, 1911, a resolution, proposed by Representative Augustus O. Stanley, of Kentucky, calling for an investigation of the United States Steel Corporation was introduced

into the House and passed and a committee of congressmen headed by Mr. Stanley was appointed to undertake the work. The other members of the committee, which became known as the Stanley Committee, were:

Charles L. Bartlett, of Georgia, Democrat.

Jack Beall, of Texas, Democrat.

Martin W. Littleton, of New York, Democrat.

D. J. McGillicuddy, of Maine, Democrat.

Augustus P. Gardner, of Massachusetts, Republican.

Henry G. Danforth, of New York, Republican.

H. O. Young, of Michigan, Republican.

John A. Sterling, of Illinois, Republican.

The committee shortly began its work and in the course of its investigation summoned as witnesses the heads of the corporation and of various independent steel companies, experts in economics, consumers and a host of other witnesses. The greatest publicity was given to these hearings, but the corporation, although practically put on trial, could not avail itself of the usual recourse of a defendant, could not call witnesses on its behalf.

On August 2, 1912, the Stanley Committee presented its report, or rather reports, for there were several. The majority report, signed by Messrs. Stanley, Bartlett, Beall, Littleton and McGillicuddy, was a sweeping condemnation of the corporation, its organization and its methods. This was a matter of little surprise as the entire method of conducting the investigation was sufficient to convince the unprejudiced mind that the effort of the investigators was not so much to find out whether the corporation had been influential for good or evil but to prove that it was actually a violator of the law.

Practically everything the corporation ever did was condemned in this report. Among the items that came for particular criticism were overcapitalization, the bond conversion plan, the Hill ore lease, the Union-Sharon purchase, the Gary dinners, the Tennessee purchase,

the corporation's attitude toward labor unions and towards labor generally, and interlocking directorates.

According to the report the corporation played an important and dangerous part in influencing legislation, particularly in helping to disseminate literature in favor of a high tariff. The letters produced in support of this charge, however, do not seem to be very convincing proof, indicating that no means other than perfectly legitimate one were used to assist in maintaining the tariff on steel products, the necessity for which all steel men are agreed on.

In regard to the purchase of the Tennessee Coal, Iron & Railroad Co., the Stanley Committee asserted unequivocally that George W. Perkins, a Morgan partner and a member of the board of directors of the Steel Corporation, deliberately attempted to precipitate a run on the Trust Co. of North America with the purpose of forcing the interests in control of the Tennessee company to sell. The details of the deal and the events connected with the run on the trust company have been discussed in the chapter devoted to the Tennessee purchase.

On the question of interlocking directorates the majority of the Stanley Committee expressed their grave apprehension of its menace to the country and pointed out that the corporation, through its directors, had representation on the boards of railroads capitalized at \$10,265,000,000, banks and trust companies whose capital, surplus and undivided profits aggregated \$3,315,000,000, industrial concerns capitalized at \$2,803,509,000 and express, steamship and terminal companies capitalized at \$2,272,000,000.

Finally the committee demanded that the railroads owned by the Steel Corporation be segregated from it as a matter of public necessity, the ownership of these roads giving the corporation a great advantage over competitors.

A minority report, signed by Augustus P. Gardner,

Henry G. Danforth and H. O. Young, concurred with the main report in some particulars but suggested that the majority had singled out incidents to bolster up its arguments without regard to their relative unimportance, the result being an overdrawn picture of the iniquities claimed to have been perpetrated by the corporation. While the second report unequivocally condemned the organization of the corporation as an attempt by the Morgan interests to eliminate competition against the steel companies in which they were concerned and to do away with the ever present menace that Andrew Carnegie was supposed to be, it said the actual control of the actions of the great combine had been put into the hands of "exceedingly competent, although perhaps not altruistic, managers who have subsequently made it a success."

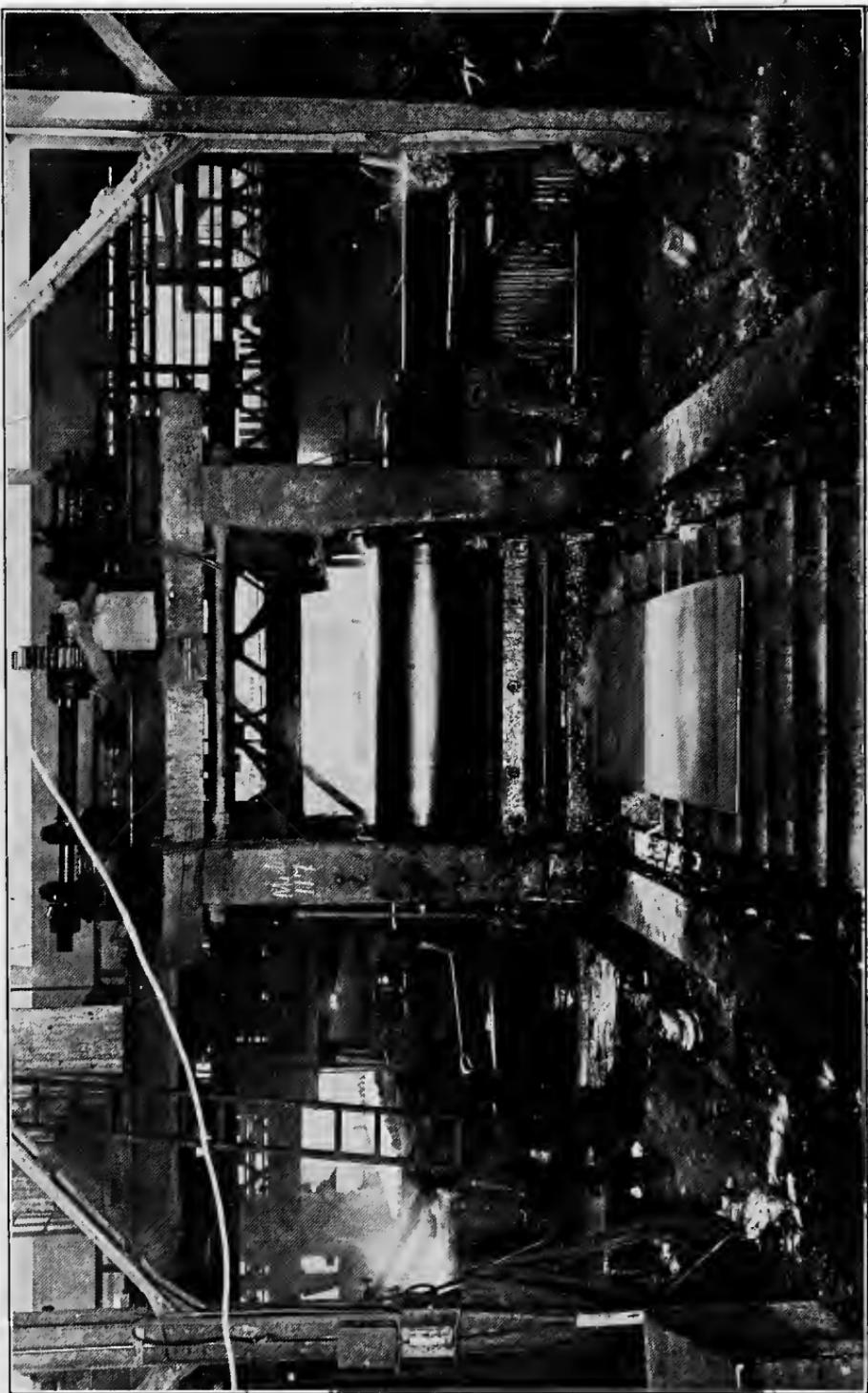
The minority report also pointed out that significant fact that the price of steel, as based on a representative list of products, had declined from \$38.80 a ton before the corporation was formed to \$36.11 in 1911.

Finally the minority members did not favor the dissolution of the corporation, merely contenting themselves with the suggestion that it be put under Federal control. Incidentally such control over all corporate activities has been frequently urged by Judge Gary, head of the corporation.

This did not end the list of reports as Representatives Young and Littleton each appended their personal views, both of which were favorable to the Steel Corporation in many respects.

A year or more after the presentation of the Stanley Committee reports some interesting events calculated to throw a new light on the causes that led to the inception of the investigation transpired. A man known as David Lamar (an assumed name on his own confession), one who bore so unsavory a reputation in financial circles that he was styled "The Wolf of Wall Street," came forward with the assertion that he himself

ROLLING A PLATE



had written the Stanley resolution and had used it, or attempted to do so, as a club over the heads of the Morgan interests. This failing, he had sent the resolution to Stanley through Henry B. Martin, secretary of an association called the Anti-Trust League and the Kentucky congressman had introduced it into the House.

Lamar's story was confirmed by Martin and by Edward Lauterbach, a New York Lawyer. It was followed by a denial on the part of Stanley who pointed out that the resolution was offered originally by him in 1910, a year before the time of its passage upon its second introduction, whereas Lauterbach had said that Lamar showed him the resolution in 1911. The record of the Senate committee which heard the Lamar evidence, however, shows that Lauterbach stated he had seen the resolution as early as 1908, or thereabouts and that he thought it had been offered to the House in 1910. Upon a suggestion from a Senator, who apparently was not cognizant of the fact that the resolution had been presented unsuccessfully a year before its passage, that it did not come before the House until 1911, Lauterbach corrected his date. Under the circumstances this correction was natural, although the original testimony was the more reliable.

However innocent Stanley might have been of knowledge of Lamar's authorship of the resolution, and however sincere his motives in bringing it before Congress, the connection of "The Wolf of Wall Street" with the matter, which seems fairly conclusively proven, was in itself sufficient to give a sinister aspect to the whole investigation, to suggest that its inception was the result of base motives.

Following the Stanley investigation came the Federal Steel dissolution suit. That the one grew out of the other is easy to believe. In fact it would be difficult to think otherwise. The United States Steel Corporation had been organized, done business and prospered under

successive Republican administrations. It had been investigated by the governmental departments charged with such work but these had failed to find sufficient evidence to warrant the bringing of a suit against the big company. The Stanley resolution was passed by a House controlled by a Democratic majority and the measure had been applauded by a large body of voters who had been taught to believe by their political advisors that all big business was necessarily evil. The Republican Party was facing grave danger of defeat in the coming elections of 1912 and the advantage the investigation had gained for the Democrats among the class of voters referred to could only be offset, it seemed, by a political "grand stand play" of the same nature. Here, again, we come to a question of motives, but all the evidence obtainable seems to show that this was at least one of the reasons why, on October 26, 1911, the Attorney General for the United States, George W. Wickesham, caused to be filed at Trenton a suit for the dissolution of the United States Steel Corporation.

It cannot be said that the suit surprised anyone. The country at large had long wondered why no action had been taken against the Steel Corporation; why this great combine alone seemed to be immune from attack by the Federal authorities. Those unfamiliar with its conduct and policies and knowing it only as the biggest of the "trusts" could attribute the immunity only to political influence, while those better informed, although believing that the corporation's entire history had been such as to render attack futile, all violations of the law having been carefully avoided by it, and that the corporation was not a monopoly in restraint of trade, felt that the force of popular opinion must sooner or later result in a suit.

In the Government's charges were reiterated practically the same complaints found against the corporation in the Stanley report; and a complete dissolution was

asked for. The corporation replied denying in total all the charges and asserting its innocence of any violation of the Sherman anti-trust act.

Jacob M. Dickinson, former Secretary of War in the Roosevelt cabinet, was put in charge of the prosecution, assisted by Henry E. Colton. An imposing array of legal talent was lined up on the corporation side, its counsel including Joseph H. Choate, John G. Johnson, Francis Lynde Stetson, Richard V. Lindabury, Cordeño A. Severance, David A. Reed and Raynal C. Bolling. The actual conduct of the case was principally in the hands of Messrs. Lindabury, Severance and Reed.

Hearings before a Special Examiner were ordered and these began in New York early in 1912. Many months were consumed in the hearing of testimony on either side and it was not until the Spring of 1914 that the last of the witnesses was examined. Among those called to testify were former President Roosevelt, prominent steel men like John A. Topping, E. C. Felton, Joseph G. Butler, Willis L. King, Charles M. Schwab, James R. Bowron, Frank S. Witherbee, W. H. Donner, A. F. Huston, Edwin R. Crawford, A. W. Thompson, Karl G. Roebling, James A. Campbell, C. W. Bray, W. W. Lukens, John Stevenson, Jr., and a host of others, prominent economists like Professor Jeremiah Jenks and Dr. Francis Walker, financiers like Oakleigh Thorne, of the Trust Co. of America, George M. Reynolds and others. Directors of the corporation including Judge Gary, James A. Farrell, J. H. Reed, Percival Roberts, Jr., Daniel Reid, and so on, not to mention a vast array of railroad purchasing agents, heads of large steel consuming companies, and many others among whom may be mentioned James R. Garfield and Lewis Cass Ledward.

A large part of the testimony was devoted to events far preceding the organization of the corporation, it being the intent of the government counsel to show that not only was the corporation restraining trade but

that the very elements of which it was composed, the companies absorbed by the great merger, were themselves organized in violation of the law. As the hearings progressed the conviction that the corporation would emerge from the ordeal of prosecution successful became more prevalent, the evidence, to the lay mind, all supporting its denial of any violation of the law. The witnesses called for the defence were unanimous in declaring that the big company, far from restraining competition, had fostered it, and this point, in effect, was the very nub of the matter. Even the witnesses for the prosecution, many of them, took the same attitude.

It was in listening to this testimony, or the greater part of it, that the writer conceived the idea of recording the history of the great corporation. Here was a mass of data, the sworn statements of prominent and reliable business men, a foundation that could not be excelled for a work of this character. From this mass of evidence, in large part, have been taken the facts stated in this history. The records in the dissolution suit, in fact, contain the whole story of the corporation. Hence it would be vain to review in detail all the testimony here.

The arguments of counsel for both sides were presented to the U. S. District Court of Appeals, and for months the business world waited anxiously for its decision, one that would have a very far reaching effect not on the corporation or the steel trade alone, but on business generally. For it was felt that a decision adverse to the defendant would mean that mere bigness was considered illegal and that no large corporate enterprise would be allowed to exist, however free from evil its course of action might be. If the Steel Corporation was adjudged a monopoly in restraint of trade, it was thought, then all big business was doomed, for the corporation, certainly, had sought in every way to meet fully the requirements of the law.

It was not until June 3, 1915, that the Court rendered

its decision, the most favorable to big business ever handed down in an anti-trust suit, denying the petition of the Government and completely absolving the Steel Corporation from the charge of monopoly. The decision was unanimous, all the judges being in entire agreement that the corporation was not, and never had been, a monopoly in restraint of trade.

All four of the judges concurred on the main point at issue—that of trade restraint. A minority opinion, signed by Justices Woolley and Hunt, expressed some divergence of thought on minor points, which we shall come to. In the meantime, let us examine some extracts from the main opinion, signed by Judge Buffington, presiding, and Judge McPherson.

"As trade is a contest for it between persons and the gain of that trade by one means the loss of it to another, it follows that the person who best knows whether the man who gained it gained it fairly, is the man who lost it. If there is monopoly we can find proof of it from business competitors." (Page 10, Opinions of the Court.)

"For of the conduct of the Steel Corporation, the views of its competitors is the best gauge. Monopoly and unreasonable restraint of trade are, after all, not questions of law, but questions of hard-headed business rivalry, and whether there is monopoly of an industry, whether trade is subjected to unreasonable restraint, whether there is unfair competition are facts about which business competitors best know and are best qualified to speak. And it may be accepted as a fact that where no competitor complains, and much more so, where they unite in testifying that the business conduct of the Steel Corporation has been fair, we can rest assured there has been neither monopoly nor restraint. Indeed, the significant fact should be noted that no such testimony of acts of oppression is found in this record as was given by the competitors of the Tobacco or Standard Companies in the suits against those com-

panies. We have carefully examined all the evidence given by competitors of the Steel Corporation. We have read the testimony of customers who purchased both from it and from its competitors. Its length precludes its recital here, but we may say its volume, the wide range of location from which such witnesses came and their evidently substantial character in their several communities, make an inevitable conclusion that the field of business enterprise in the steel business is as open to, and is being as fully filled up by the competitors of the Steel Corporation, as it is by that company."

(Page 28.)

Next the court turns to "that most injurious feature of monopoly's wrong to the public, to wit, increase in the price of its product or a deterioration in quality." It disposes of the question of quality first thus:

"No dispute arises under the proofs. They are simply uniform that, both with independents and the Steel Corporation, there has been a steady bettering of quality in steel products."

The question of prices it discussed at some length and intimated that there had been no evidence presented to show that the corporation had unduly raised prices, while a large number of steel consumers had agreed in testifying that active competition in prices for steel existed between the corporation and the independent companies, which would alone indicate that prices had been only such as ordinary business practice warranted. The Court added: "The Steel Corporation has adopted a policy of price publicity and adherence, somewhat analogous to the freight rate stability followed by the railroads under the directions of the Interstate Commerce Commission."

Next the Court considered the subject of restraint of trade in the export or international field and found that: "we are warranted in holding that the foreign trade of the Steel Corporation, its mode of building it up, and its retention when built up are not contrary to the Sherman

Law. To hold otherwise would be practically and commercially to enjoin the steel trade of the United States from using the business methods which are necessary in order to build up and maintain a dependable business abroad, and if the Sherman Law were so construed, it would itself be a restraint of trade and unduly prejudice the public by restraining foreign trade."

On the charge that the inherent nature of the corporation was monopolistic, that the object of its organizers in bringing it together was for restraining trade the court says, in part:

"In view of the fact that the proportionate volume of competitive business has increased since the steel company was formed and that the proofs show no attempt by it to monopolize it to the exclusion of its competitors, to now attribute to those who formed the corporation an intended monopolization would be to say that, having formed the corporation for the purpose of monopoly, they immediately abandoned such purpose and made no effort to accomplish it."

The Court disposes of the matter of the purchase of the Tennessee Coal, Iron & Railroad Co., and of other purchases of steel properties criticized by the Government, by saying, "we cannot but feel, in the light of the proofs, that they were made in fair business course and were, to use the language of the Supreme Court in the Standard Oil case, 'the honest exertion of one's right to contract for his own benefit unaccompanied by a wrongful motive to injure others.'"

Perhaps the most important point of divergence between the two opinions lies in the fact that Justice Woolley, with whom Justice Hunt concurred, held that it was the purpose of the organizers of the corporation to restrain trade. These Judges found, however, that the big company did not attempt to exert a power, if it possessed it, to destroy its competitors; they say: "Upon the finding that the corporation, in and of itself,

is not now and has never been a monopoly or a combination in restraint of trade, a decree of dissolution should not be entered against it."

"Reference has already been made to the opinions of the judges on the matter of the Gary Dinners and of the meetings that grew out of them. In denying the petition for a dissolution of the corporation the court stated that it would, if requested by the Government, retain the bill of complaint to restrain further action of this sort by the defendant corporation.

Metaphorically, business breathed a sigh of relief when the decision was made public, a relief only mitigated by the fact that an appeal to the U. S. Supreme Court was to be expected—and will doubtless come before these lines are in print.* But so clear and unmistakeable were the findings of the court, so little question did there seem to be in the minds of the judges that any evidence of monopoly or restraint of trade existed, that the final issue will be awaited with confidence.

When I began to write this history of the Steel Corporation the case was still being fought out before an examiner. I tried to give the reader as concisely as possible the impressions I gathered from listening to the testimony, supplemented with knowledge gathered through associations with the steel trade. At times, I feared, my readers would accuse me of undue prejudice in favor of the corporation. Hence the opinion of the U. S. Circuit Court of Appeals, bearing out my statements on the main facts connected with the corporation's history, is a matter of peculiar gratification.

*The appeal was filed Oct. 28, 1915.

POURING PIG IRON INTO CONVERTER



CHAPTER XIII

LATER HISTORY. 1907-1915.

ALTHOUGH the business depression consequent on the panic of 1907 seriously affected earnings of the Steel Corporation in the closing months of the year, the big company was able, as a result of the boom conditions that preceded the financial catastrophe, to report the largest earnings it had ever shown. Total earnings were \$160,964,673.72, and a net balance was left for dividends of \$104,565,563.76. After the payment of the dividends, the common being maintained at the established rate of 2%, and the appropriation of \$54,000,000 for property additions, a net surplus of \$15,179,-836.76 remained.

In the appropriations for additions was included a sum of \$18,500,000 for the continuation of the work being done at Gary, making the total amount appropriated for this purpose to the end of 1907, \$50,000,000. During the year the work of building the new steel city progressed rapidly and \$19,316.55 was added to the \$4,632.202 expended the previous year.

The last two months of the year showed the effects of the business depression, earnings of the last quarter, net for dividends, being only \$18,614.416, compared to \$28,758,142 the three months preceding. But it was not until 1908 that the full force of the storm was to be seen. In the first quarter of this year net profits applicable to dividends dwindled to \$8,854,297.37, compared with \$27,031,008.20 a year previous, and second quarter profits were \$9,042,027.55 against \$30,843,512.61 in the same period in 1907. A striking comparison of the difference in trade conditions that occurred in the twelvemonth is afforded by the following statistics.

	1908	1907
Gross sales	\$482,307,840.34	\$757,014,767.68
Steel ingot production.....	7,838,713 tons	13,342,992 tons
Finished steel production.....	6,206,932 tons	10,564,537 tons
Number of employees (avg.).	165,211	210,180
Net earnings	\$91,847,710.57	\$160,964,673.72
Net for dividends.....	\$45,728,713.70	\$104,565,563.76

No special appropriations were made out of 1908 profits and a surplus of \$10,342,986.70 was thus shown for the year after the dividend payments. However, such an appropriation appeared to be unnecessary as the corporation already had a large reserve fund for the most important work underway, the building of the city and plant at Gary. On January 1, 1908, the balance on hand for this purpose was \$26,051,242.62, and there was spent on the work \$18,848,472.19 during the year, so that at the start of 1909 there was a balance of sufficient size to continue the work for several months.

During the year 1908 the bonded debt of the corporation, which had been increased from \$564,670,876 at the end of 1906 to \$602,320,511 a twelvemonth later, chiefly on account of the issuance of securities for exchange for Tennessee Coal & Iron stock, was reduced to \$594,-865,534.

Among the important items of expenditure for 1908 is found a sum of \$3,460,993 which was employed in modernizing the plants of the Tennessee company acquired the previous year. This was the beginning of a series of large expenditures extending over many years, and all for this purpose. Up to the end of 1914 approximately \$20,180,092 had been spent on this work, most of it coming from the general funds of the corporation and not from the earnings of the southern subsidiary itself.

To what extent the acquisition of the Tennessee company affected the Steel Corporation's capacity is shown in a table submitted in the report to stockholders for 1908, the figures given being as of the end of the year.

	Blast Furnace Products. <i>Tons.</i>	Steel Ingots. <i>Tons.</i>	Finished Steel. <i>Tons.</i>
Capacity April 1, 1901.....	7,440,000	9,425,000	7,719,000
Purchase of Union and Sharon Cos.	1,228,000	1,258,000	1,103,000
Tennessee purchase	1,000,000	500,000	400,000
Additions made by different Cos. aftter acquisition..	5,322,000	5,887,000	3,678,000
Capacity January 1, 1909....	14,990,000	17,070,000	12,900,000

This report also states that although the total steel capacity of the corporation had been increased by 2,306,000 tons during 1908 its capacity for the making of bessemer steel had decreased 746,000 tons. Open hearth capacity increasing 3,052,000 tons. These figures illustrate sufficiently the change then occurring in the steel trade from the old Bessemer to the new open hearth process.

An even more striking illustration of the manner in which open hearth steel has been displacing the older bessemer process in recent years is afforded by the figures of the American Iron & Steel Institute. In 1880 open hearth production was only 100,851 tons, against 1,064,262 tons of bessemer. A decade after bessemer production was 3,688,871 tons compared with 513,232 tons of open hearth and in 1900 6,684,770 tons of bessemer were turned out by the steel mills of this country for 3,398,135 tons of open hearth. By 1907 the two processes of steel making were running a close race for popularity with consumers, open hearth production being 11,549,736 tons in that year, and bessemer 11,667,549 tons. In every subsequent year open hearth production has been the larger, as shown by the following figures:

Year.	Bessemer.	Open hearth.
1908	6,166,755	7,836,729
1909	9,330,783	14,493,936
1910	9,412,772	16,504,509
1911	7,947,854	15,598,650
1912	10,327,901	20,780,723
1913	9,545,706	21,599,931
1914	6,220,846	17,174,684

Business conditions gradually bettered throughout 1909, although the so called open-market that existed in the steel trade resulted in an average of prices during the year somewhat lower than in 1908. Nevertheless increased production caused a marked and gradual gain in the earnings of the big corporation, which from \$22,921,268.75 in the first quarter, grew to \$29,340,491.62 in the second quarter, \$38,246,907.43 in the third, and \$40,982,746.14 in the closing three months.

Total earnings in 1909 were \$131,491,413.94, and after all fixed charges had been met, dividends paid and a special appropriation of \$18,200,000 set aside for new construction, etc., a surplus of \$15,321,918.04 was carried to profit and loss. The bonded debt of the corporation in 1909 was increased by \$12,718,639.43 to a total of \$607,584,173.72, there having been issued by the subsidiary companies bonds to a total of \$21,976,500, and bonds totalling \$9,257,860.57 having been redeemed.

The year's operations resulted in a production of 13,355,189 tons of steel ingots and 9,859,660 tons of finished steel products. The total volume of business was reported at \$646,382,251.29.

On the steel plant and city of Gary \$11,081,367.80 was spent, making the total expended on the project to December 31, 1909, \$53,878,597.37. Gary was now a steel producing center. Early in the year steel rails were turned out there and shortly after the close of 1908 and later in 1909 several of the steel furnaces and other finishing mills had been placed in operation. About this time it was decided that two of the other constituent companies of the corporation, the Sheet and Tinplate and Bridge companies, should erect plants at Gary, which plants are now in operation and have been for some time.

About the middle of 1910 the wave of improvement that had brought better business and profits to the steel companies began to slacken. The effect was not very immediate and the year, as a whole, was one of the best

ever experienced by the corporation. Earnings reached a total of \$141,054,754.51, the next best twelvemonths business ever reported, but a fall in quarterly profits from \$40,170,960.83 in the quarter ending June 30, to \$25,901,729.87 was sufficient to show the downward tendency in conditions affecting the trade.

Gross business aggregated \$703,961,424.41, and production reached its high water mark, 14,179,369 tons of ingots and 10,733,995 tons of finished steel being turned out by the plants controlled by the Steel Corporation.

Bonds to a total of \$17,392,752.14 were redeemed and \$6,945,237.50 issued making the outstanding bonded debt of the corporation and its subsidiary companies on December 31, 1910, \$597,136,659.08. Some \$16,000,000 were expended in further work at Gary bringing the total outlay on the plant, city and terminals there to \$69,978,695.15, of which \$60,203,189.22 was financed from the funds of the parent corporation and the balance by various subsidiary companies, including the Bridge and Wire companies, which began the construction of their new plants during the year.

Several important purchases of coal properties in the States of Illinois and Indiana were made in the years 1909-1910. These gave the corporation 742 acres of land and 55,624 acres of coal rights. The most important new development recorded at this period, however, was the beginning of work on the construction of another steel plant and city, near Duluth, Minn. The site for this plant had been purchased as early as 1907, but the events of the year and the dullness that followed made it seem wise to postpone the project. The more favorable conditions at the beginning of 1910 warranted its being proceeded with, and so the matter was put in hand and, at the end of the year, \$1,715,517.70 had been spent on the new plant.

In accordance with its policy of permitting its workers to share in the better earnings resulting from improved business conditions the corporation, in 1910, an-

nounced another advance in wages, affecting the greater number of its employees who, throughout the year, averaged 218,435. The increase averaged something over 6%.

Several factors operated adversely against the corporation, from a financial standpoint, in 1911. The decline in business noted in the late months of the preceding year, continued through and well into 1912, tonnage fell off and prices dropped with it. In May, 1911, the Republic Iron & Steel Co. precipitated matters by announcing a drastic reduction in the price of bars, the most important steel product, and this led to general price cutting, affecting every steel maker. It is worthy of note, however, that the conditions that now prevailed had nothing of panic in them. The business world seemed merely to be hesitating, to be timorous about making new ventures, to question the future. Perhaps the real reason was the world situation ripening for the Great War, for it is noticeable that, although conditions over the end of 1912 and into 1913 were good, this hesitancy was still in evidence, something ominous seemed to hang over the world of business and finance. And, I believe, that even then some of the leaders of finance foresaw, even though dimly and uncertainly, the trouble that was brewing.

Earnings of the Steel Corporation in 1911 were \$104,305,465.87, the four quarters making a comparatively even showing. After the payment of dividends only \$4,665,494.78 was left for surplus. Dividend requirements, however, were considerably larger than they had been in previous years. The rate of disbursement on the common issue had been increased to 4% in 1909, and to 5% in 1910, at which rate it continued until the latter part of 1914.

Production in 1911 fell off to 12,753,370 tons of ingots and 9,476,248 tons of finished steel products, and the gross volume of business declined to \$615,148,839.79.

The number of employees also grew less, the average number employed in the period being 196,888.

Another increase in the bonded debt was reported, new securities totalling \$33,416,000 being issued, and \$9,498,359.46 being redeemed. The bonded debt of the big company on December 31, 1911, stood at \$621,054,- 299.62.

Capital expenditures reported for the year included \$7,939,813.46 at Gary, bringing the total for this project to \$78,258,508.61; \$17,707,280.79 expended for the acquisition of new coal properties in the Connellsville region of Pennsylvania, \$5,069,983.65 spent on the Tennessee properties, and \$1,437,518 spent on the new Duluth plant.

The two most important events of the year were the decision of the directors of the corporation to cancel the Hill Ore lease and the inception of the Federal suit for the dissolution of the big company under the Sherman anti-trust law. Both of these events took place on the same day, October 26. As the Hill lease has been discussed at length in a previous chapter, and the facts connected with the dissolution suit have already been told they will not now be gone into.

Towards the close of the year just reviewed there was a gradual increase in the volume of steel buying. The railroads, which had been consuming very little of the metal—and the roads are the largest customers of the steel companies—began to buy in something like normal proportion and continued to do so until the Spring of 1913. Other consumption also showed more activity and under the impetus of this buying prices for steel products gradually advanced. The Corporation's earnings, however, did not immediately reflect this betterment, the first quarter of 1912 showing net profits from operations of only \$17,826,973.28, but a steady advance was recorded until \$35,191,921.82 was reported for the last three months of the period.

For the year net earnings of \$108,174,673.12 were made and a balance of \$3,605,247.37 was carried to surplus. The bonded debt of the corporation on December 31, 1912, showed an increase of \$22,482,881 from a year previous, bonds and mortgages totalling \$32,428,246.50 having been issued and \$9,906,365.47 in funded debt having been redeemed. The bonded debt of the big company and its subsidiaries at the end of the year stood at \$643,537,180.65.

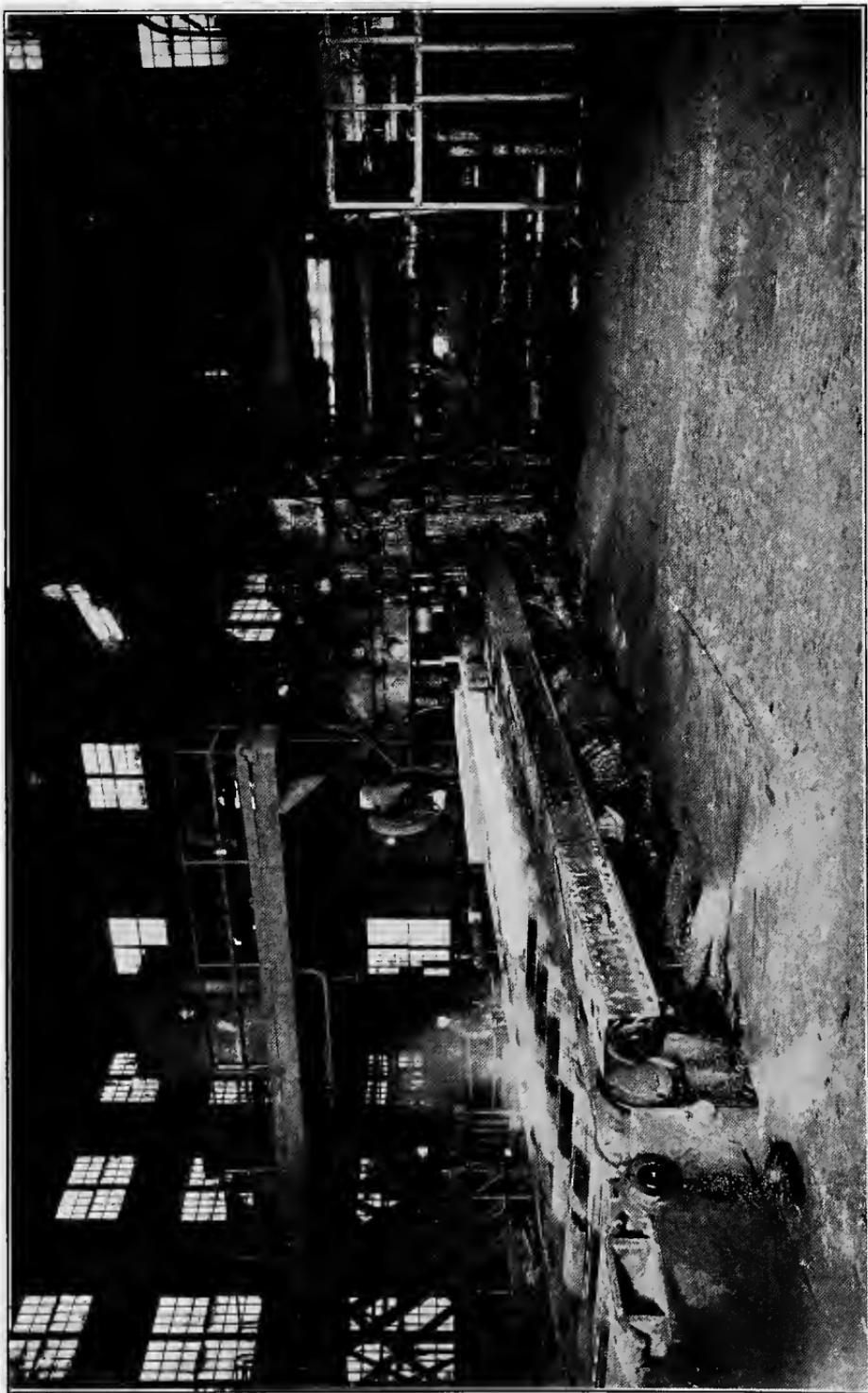
Production in 1912 amounted to 16,901,223 tons of ingots and 12,506,619 tons of finished steel. The total volume of business amounted to \$745,505,515.48. Of this sum \$494,637,808 represented sales of steel and other products to customers outside the corporation, \$189,257,318 intercompany sales, and the balance earnings from transportation and other sources.

The main items in capital expenditures were as follows: Work at Gary, \$1,725,052; Duluth plant, \$2,676,066; Tennessee Coal, Iron & Railroad extensions, \$1,833,094. The construction of the Gary plant was now practically finished and the plant produced 1,093,578 tons of pig iron, 1,669,389 tons of steel, and over 1,186,000 tons of finished products in the course of the year.

In view of the general betterment in business conditions it was decided by the directors of the corporation to erect a big plant across the Canadian border. A site for this plant had already been acquired at Ojibway, Ontario, opposite the city of Detroit. This scheme was never carried out as later events made it advisable to postpone the matter for a more favorable time, which does not seem yet to have arrived.

An attempt was made about this time to reduce the working hours of some of the employees from the twelve-hour to an eight-hour day. Such a course had been recommended by a special committee of stockholders appointed at the annual meeting in 1911, but the attempt was by no means an unqualified success, as the move-

PLATE MILL—ROLLING A PLATE



ment met with considerable opposition from the men themselves.

In the first nine months of 1913 generally satisfactory conditions prevailed in the trade, and earnings were consequently improved, although operating costs had again been increased by a general wage increase put into effect on February 1 of that year. The first quarter showed net earnings of \$34,426,801.54, the second \$41,-219,813.42, and the third \$38,450,400.03. A pronounced decline was reported in the final three months when profits fell to \$23,084,329.84. The good results of the earlier months were largely due to the big carry-over of business from 1912 and to the comparatively high average of prices received. For perhaps the first time in the history of the steel trade the railroads placed their orders for rails for 1913 delivery as early as the Summer of the preceding year, and this went a far way toward effecting the results shown.

After a special \$15,000,000 appropriation the corporation showed a net surplus of \$15,582,183.62 for 1913. No important bond issues were made in the period and, with \$16,660,866.76 in bonds redeemed the total bonded debt was reduced to \$627,366,681.47, a decrease of \$16,-170,499.18.

The total volume of business amounted to \$796,894.-299, of which \$518,999,605 represented sales to outside customers; \$211,910,441 intercompany sales, and the balance transportation and other business. The average number of employees was 228,906, the highest recorded so far, and production totalled 16,656,361 tons of ingots, and 12,374,838 tons of finished steel products. The principal expenditures for capital account included \$2,960,-124.92 spent at Gary, \$5,912,027.44 at Duluth, and \$1,-274,440.84 on the Tennessee plants. Fee title was also acquired during the year to certain ore properties previously worked on a royalty basis. This cost \$11,670,-181.87, of which \$2,283,677.63 was paid in cash, and the remainder in notes of the Oliver Iron Mining Co.

We now come to 1914, the year which saw the beginning of the Great War, with its disastrous results on business generally, and on no line of activity more than the steel trade. The events of this year are too recent and too well known, too vitally important to all to need repetition. Industry, in the middle of the year, was just beginning to struggle out from the depression that had begun in the later half of 1913 when the sudden clash of arms paralyzed world money markets, closed the stock and other exchanges, closed or restricted operations at hundreds of plants of one kind or another, and threw thousands of workers out of employment.

The demand for steel, never very active at any time since about July, 1913, fell almost to a vanishing point, and earnings of the corporation, in the last quarter declined to the lowest point in its history, \$10,935,635.36. Total earnings for the year were only \$71,663,615.17, and, although the dividend rate on the common stock was reduced from 5% to 2% annually in the third quarter, and the dividend for the last quarter was passed, earnings were not sufficient to meet charges, and a deficit of \$16,971,983.83 was reported.

The necessity for passing the dividend—and it was a pressing one—was keenly deplored both by the management of the big company and, naturally, by its stockholders. That payments would have been maintained had there seemed the slightest warrant for such a course seems to be beyond question as the directors realized that the wide distribution of the stock, and the fact that many of its shareholders were people of small incomes who looked to their Steel dividends almost with the feeling of security they would have reposed in good bonds would make their action necessarily a great hardship to many. But there was no way out. Even had wages been reduced there did not, at the time, appear to be any hope that profits for a long time would meet requirements, and the conservation of resources was paramount. But wages were not cut. In the early part

of 1915, with earnings running even lower than in the last quarter of 1912, the matter was considered, but a slight increase in business was seized upon as a warrant for the continuance of the old wage scale. The steel worker was saved, although the steel stockholder suffered.

Sales to outside customers in 1914 totalled only \$380,-228,143; intercompany sales \$129,565,729, and other receipts made a total of \$558,414,933, a decrease of over \$238,000,000 from the previous year. Ingot production fell to 11,826,476 tons, and finished steel output to 9,014,-512 tons, equal to about 62% of the gross capacity. Practically no change was shown in the bonded debt, which on December 31 stood at \$627,238,417.26. The number of employees averaged 179,353.

So acute was the depression that it was decided to stop construction work at the new Duluth plant in the Fall of the year. Expenditures for this account for 1914 amounted to \$4,094,363.97.

In December, 1914, production at the corporation's plants fell to the lowest point ever recorded. The general average of operations was reported to have been about 25%, but this is probably somewhat overstated, as two of the largest subsidiaries reduced operations as low as 15% in one case, and 18% in the other, during the last fortnight of the year.

Never did year dawn blacker for the steel trade than did 1915. The financial upset that followed the outbreak of the great war paralyzed industry, and the effect was felt in steel, the barometer of trade. Closing 1914 with operations at the lowest point in years—perhaps on record—and with no actual sign of early betterment it was small wonder that all except the perpetual optimists faced the future with some dread.

And the events of the early part of the year seemed to justify this dread. In the month of January the Steel Corporation's earnings fell to the lowest point on record \$1,687,150. There was a gradual picking up both

in the rate of operations and in earnings throughout the quarter, and by the end of March the big company's plants were running over 60% of capacity, while earnings for March were \$7,132,081 and for the quarter \$12,457,809.

But the war was destined to bring an immense amount of business to the steel mills of the United States, and of Canada as well. As the struggle developed the Allied powers had brought home to them their shortage of war material, in which steel plays an important part. It was necessary for them to purchase guns, shells, automolibes, aeroplanes and hosts of other articles in all made wholly or partially of steel. It had become a war of machines, and there was nowhere but America to supply these machines. First the war demand made itself felt for wire. This was natural, as England, although an important steel producing country, makes little wire and has been in the custom of importing a large part of her needs of this commodity from the United States. Many, many miles of barbed wire were needed for trench entanglements, and the wire mills of the Steel Corporation and the other wire producers here began to increase output and to show better earnings.

Then France and England began to buy shrapnel steel and Russia asked for a large number of locomotives and cars, as well as a very heavy tonnage of rails. All this meant more work for the steel mills. The export steel trade of the country grew to unprecedented proportions. The corporation, before the middle of the year, was sending abroad one-third of all the steel it made. It will be remembered that in the best previous year of export trade foreign shipments had amounted to only 18% of the total production of the corporation's mills.

Domestic trade, due partly to the increasing shipments of food, clothing and other goods to the belligerents, began to pick up. Industry generally was reviving un-

der the stimulus of war buying. And the steel trade was benefited in this way also. Gradually a spirit of optimism began to make itself felt. As the trade balance of the United States reached and passed the billion-dollar mark the gloom that had settled on the minds of all was dispelled and hope took its place. Steel operations were increased, and by the end of the second quarter of this year were nearly 90% of capacity for the corporation, while several of the independent companies were turning out every ton of steel they could produce. A "boom" was on.

Earnings, naturally, reflected the change. In the second quarter the corporation more than doubled its profits for the preceding three months, its report for the period showing a net of \$27,950,055. In the third quarter further progress was made and earnings again improved, being \$38,710,644.

One important effect of the war, one that should mean more lasting good not to the steel trade alone, but to American industries generally, was the impetus it gave to the development of the coke by-product end of the industry. In one of the earlier chapters I gave a brief resume of the work of the corporation in developing coke by-products. The value of this work came to be appreciated only when the war shut off supplies of German dyes and other chemicals derived from coal.

The by-products obtained from coal in the making of coke have many and varied uses. Cheap candy manufacturers owe their profits largely to a judicious employment of certain of them, but their destructive powers do not end there, for benzol, toluol, xylol and other by-products form the bases of the most powerful explosives, and the steel companies, already equipped with coke by-product plants, found it a simple thing to add the necessary plant for the manufacture of these special derivations from coal. To-day they are producing at the rate of many millions of gallons of such by-products, and are making large profits from their sale

to the manufacturers of explosives, but they are doing at the same time something of far more lasting importance.

For aniline dyes, the fast colors in general use to-day, are made from these same by-products. These dyes were previously obtained from Germany, but the stoppage of imports caused by the war made plain the urgency for the building up of an American dye industry. It will take time to establish, but this will not be for want of raw material. By developing the coke by-product industry the steel makers have made possible a dye industry in this country.

Great expectations were entertained during the late Summer of this year that the corporation's directors, at their meeting in October, would resume the payment of dividends on the common stock. These hopes were doomed to disappointment, although earnings for the September quarter, nearly \$39,000,000, were more than sufficient to warrant the payment. The directors, however, were in favor of the more conservative course.

Yet the stockholders of the big company have every reason to view the immediate future with entire satisfaction. The corporation's plants are running full capacity with output booked up many months ahead, and there is every prospect that the demand will increase rather than diminish during the next six months or more. Prices for some time have been on the upturn; the steel trade is experiencing a period of prosperity such as it has never before enjoyed. Earnings of the corporation, as well as of independent companies, are approaching record figures, if indeed, they have not already passed them, and new high earnings should be recorded in the early months of 1916.

The corporation is in an exceedingly strong financial position, thanks to the attitude of its management in putting so large a percentage of profits back into new

construction over the years, its works are all in excellent shape, new plants are being built—the Duluth plant will probably be running before these lines are in print—and the outlook for the future, both as to earnings and dividends, is brighter than it has ever been before.

One result of the Great War has been that no longer must the steel mills of the United States compete at a disadvantage with European manufacturers for world trade. The world today is looking to America for its steel needs and never before has so overwhelming a foreign demand been known. The foothold that circumstances have given our manufacturers on foreign markets, it is to be hoped, will not be relinquished when peace shall once more permit our foreign competitors to reenter the field, and in the new field of business it may be considered certain that the big corporation will secure its fair share.

With a large domestic demand, with capacity operations and rising prices, and finally, with a new and promising export business opening up, the year 1916 should dawn with particular brightness for stockholders of the United States Steel Corporation.

APPENDIX

STATISTICS FINANCIAL AND OTHERWISE

PAST AND PRESENT PRESIDENTS OF PRINCIPAL CONSTITUENT COMPANIES

A. C. DINKEY, succeeded Oct. 1, 1915, by **H. D. WILLIAMS**,
Carnegie Steel Company.

E. J. BUFFINGTON,
Illinois Steel Company

E. M. HAGAR, succeeded by **B. F. AFFLECK**,
Universal Portland Cement Company

W. B. SCHILLER,
National Tube Company

E. W. PARGNY,
American Sheet & Tin Plate Company

W. P. PALMER,
American Steel & Wire Company

AUGUST ZIESING,
American Bridge Company

DANIEL COOLIDGE,
The Lorain Steel Company

G. G. CRAWFORD,
Tennessee Coal, Iron & Railroad Company

E. P. THOMAS,
United States Steel Products Company

THOMAS LYNCH, died Dec., 1913, W. H. CLINGERMAN,
H. C. Frick Coke Company

J. W. ANAWALT,
United Supply Company
Union Supply Company

W. J. OLCOTT,
Oliver Iron Mining Company

J. H. REED,
Bessemer & Lake Erie Railroad Company
Union Railroad Company
Pittsburgh & Conneaut Dock Co.

A. F. BANKS,
Elgin, Joliet & Eastern Railway Company

F. E. HOUSE,
The Duluth & Iron Range Railroad Company

W. A. McGONAGLE,
Duluth, Missabe & Northern Railway Company

H. COULBY,
Pittsburgh Steamship Company

D. M. CLEMSON,
Carnegie Natural Gas Company

DIRECTORS, WITH YEARS OF SERVICE

J. P. Morgan, 1901-13†	William E. Dodge, 1901-02†
John D. Rockefeller, 1901-04	Nathaniel Thayer, 1901-11†
Henry H. Rogers, 1901-09†	Abram S. Hewitt, 1901-02†
Charles M. Schwab, 1901-04	Clement A. Griscom, 1901-12†
*Elbert H. Gary, 1901	*Robert Bacon, Apr. to Nov., 1901. June, 1902-05. 1912
*George W. Perkins, 1901	James Gayley, 1902-08
*Edmund C. Converse, 1901	Henry Phipps, 1904-14
*Percival Roberts, Jr., 1901-02. 1909	W. E. Corey, 1903-14
Francis H. Peabody, 1901-04†	John F. Dryden, 1903-11†
Charles Steele, 1901-15	*Robert Winsor, 1904
William H. Moore, 1901-15	*Thomas Morrison, 1904-11. 1914
Norman B. Ream, 1901-15†	*George F. Baker, 1905
P. A. B. Widener, 1901-15†	Marvin Hughitt, 1906-09
*James H. Reed, 1901	*J. P. Morgan, Jr., 1909
*Henry C. Frick, 1901	*Samuel Mather, 1909
William Edenborn, 1901-09	*Henry Walters, 1910
Marshal Field, 1901-05†	*James A. Farrell, 1911
*Daniel G. Reid, 1901	Gardiner M. Lane, 1911-14†
John D. Rockefeller, Jr., 1901-10	*Thomas Murray, 1913
*Alfred Clifford, 1901-03. 1908	*John S. Phipps, 1914

† Died.

* Present Director.

PROPERTIES OWNED

The subsidiary companies of the United States Steel Corporation together own a total of 146 works, comprising the following plants:

STEEL WORKS

33 Bessemer Converters.

FURNACES

125 blast furnaces.

298 open hearth furnaces.

ROLLING MILLS

45 bloom, large billet and
slabbing mills.

221 hot mills.

9 rail mills.

14 small billet and sheet bar
mills.

13 structural shape mills.

11 sheared plate mills.

77 merchant mills.

15 skelp mills.

9 Universal plate mills.

173 sheet, jobbing and plate
mills.

24 wire rod mills.

10 piercing and rolling mills for seamless tubing.

WIRE MILLS.

22 wire drawing mills.

15 nail mills.

3 spring works.

5 rope and electrical works.

16 barbed and woven fence departments.

PIPE AND TUBE WORKS.

52 welding pipe furnaces.

3 seamless tube mills.

GALVANIZING AND TINNING.

30 galvanizing departments. **8** tinning departments.

OTHER MILLS AND PLANTS.

14 tin plate mills.

20 bridge and structural
plants.

4 splice bar and rail joint
shops.

5 spike, bolt and nut works.

23 iron, steel and brassfound-
ries.

12 sulphate of iron plants.

5 cement plants.

68 warehouses.

5 departments for cold rolled
products.

PROPERTIES OWNED

MISCELLANEOUS.

2 axle works.	1 frog and switch works.
5 forge departments.	2 zinc smelting works.
1 paint factory.	2 job works.
1 shafting department.	1 eye bar works.
2 puddling mills.	2 steel car wheel plants.
1 sulphuric acid plant.	1 horse shoe department.
1 general repair shop.	3 post and gate departments.
1 armor plate plant.	1 thread protector works.
1 fabricating dept. for power transmission towers.	1 steel barge yard.

Trackage operated (standard gauge) by Steel Corporation roads:

Line owned	993.30	miles.
Branches and spur to mines and industries	602.68	"
Operated under trackage rights	365.12	"
Second tracks	403.98	"
Yard tracks and sidings	1,215.20	"

MARINE EQUIPMENT OWNED BY U. S. STEEL SUBSIDIARY COMPANIES.

	OCEAN.	GREAT LAKES.	OHIO RIVER.
Steamers.....	9	72	2
Steel barges.....		21	71
Wooden barges.....			40
Tug boats.....		1	
Fire tugs.....		2	
Keg boats.....			2
Scows.....		1	

COMPARATIVE PRODUCTION

Table showing percentage of total steel and iron output of the United States produced by the U. S. Steel Corporation, for 1901, 1911 and 1913. The figures for 1901 and 1911 are taken from the exhibits in the dissolution suit and those for 1913 from the report of the American Iron & Steel Institute for that year.

	1901	1911	1913
Iron ore from Lake Superior ranges	61.6	54.3	50.46*
Total iron ore produced	45.1	45.8	46.37
Bessemer and low phosphorous pig iron	61.7	61.1	
Basic pig iron	40.3	53.4	
Total basic and bessemer iron	58.9	57.5	Not Given
Foundry and other grades	3.4	5.4	
Ferromanganese and spiegel	65.4	76.3	80.38
Total blast furnace products	43.2	45.4	45.47
Steel ingots and castings	65.7	53.9	53.21
Steel rails	59.8	56.1	55.51
Heavy structural shapes	62.2	47.0	54.03
Plates and sheets	64.6	45.7	49.13
Wire rods	77.6	64.7	58.44
Other rolled products:		Details	
Merchant bars	not available	21.5	
Skelp . . . . .	....	49.0	
Hoops, bands and ties . . . . .	....	64.6	
Splice bars . . . . .	....	48.0	
Rolled forging blooms and billets . . . . .	....	17.8	
Concrete bars, sheet piling, railroad ties, spikes, chains, bolt and nut rods, horseshoe bars, strips and miscellaneous . . . . .	....	35.6	Not Given
Total other rolled products	27.3	35.1	
Grand total finished iron and steel	50.1	45.7	47.81
Wire Nails	65.8	51.4	44.55
Tin and terne plates	73.0	60.7	58.64

*Shipments—Production not given.

PRODUCTION (TONS)

	1902	1903	1904	1905	1906	1907
Ore mined.....	16,063,179	15,363,355	10,503,087	18,486,556	20,645,148	22,403,801
Coal mined—not for making coke.....	709,367	1,120,733	1,998,000	2,204,950	1,912,444	3,550,510
Limestone.....	1,313,120	1,268,930	1,393,149	1,967,355	2,227,436	2,957,163
Coke.....	9,521,567	8,658,391	8,652,293	12,242,909	13,295,075	12,373,938
Pig Iron, Spiegel and Ferro-Manganese	7,975,530	7,279,241	7,369,421	10,172,148	11,058,526	10,631,620
Bessemer Steel.....	6,759,210	6,191,660	5,427,979	7,379,188	8,072,655	7,556,460
Open Hearth Steel.....	2,984,708	2,976,300	2,978,399	4,616,015	5,438,494	5,543,088
Finished Steel.....	8,197,232	7,635,690	6,792,780	9,226,386	10,578,433	10,376,742
Cement (bbis.).....	486,357	644,286	539,951	1,735,343	2,076,000	2,129,700

	1908	1909	1910	1911	1912	1913	1914
Ore mined.....	16,662,715	23,431,047	25,245,816	19,933,631	26,428,449	28,738,451	17,034,981
Coal mined—not for coke making.....	3,008,810	3,089,021	4,850,111	5,290,671	5,905,153	6,705,381	5,271,911
Limestone.....	2,186,007	3,496,071	5,005,087	4,835,703	6,124,541	6,338,509	4,676,479
Coke Manufactured—Bee Hive.....	7,591,062	11,896,211	11,641,105	9,491,206	11,544,840	11,062,138	7,092,792
Coke Manufactured—By product.....	578,869	1,693,901	2,008,473	2,629,006	5,164,547	5,601,342	4,081,122
Pig Iron, Spiegel, etc.....	6,934,408	11,618,350	11,831,398	10,744,897	14,186,164	14,080,730	10,052,457
Bessemer Steel.....	4,055,275	5,846,300	5,796,223	5,055,696	6,643,147	6,131,809	4,151,510
Open Hearth Steel.....	3,783,438	7,508,889	8,383,146	10,258,076	10,524,552	7,674,966	
Finished Steel.....	6,206,932	9,859,660	10,733,995	9,476,248	12,506,619	12,374,838	9,014,512
Cement (bbis.).....	4,535,300	5,786,000	7,001,500	7,737,500	10,114,500	11,197,000	9,116,000

INCOME AND DISBURSEMENTS

Net Income (9 Mos.)	Net for Stock	Pfd. Dividend	Common Dividend		Appropriations	Surplus
			Rate	Amount		
\$ 84,779,298	\$61,395,203	\$26,752,894	% 3	\$15,227,812		\$19,414,497
133,308,764	90,306,524	35,720,177	4	20,332,690		34,253,657
109,171,152	55,416,653	30,404,173	2½	12,707,563		12,304,917
73,176,522	30,267,529	25,219,677	..	..		5,047,852
119,787,658	68,585,492	25,219,677	..	..	26,300,000	17,065,815
156,624,273	98,128,587	25,219,677	2	10,166,050	50,000,000	12,742,860
160,964,674	104,565,564	25,219,677	2	10,166,050	54,000,000	15,179,837
91,847,710	45,728,714	25,219,677	2	10,166,050	..	10,342,987
131,491,414	79,073,695	25,219,677	4	20,332,100	18,200,000	15,321,918
141,054,755	87,407,186	25,219,677	5	25,415,125	26,000,000	10,772,384
104,305,466	55,300,296	25,219,677	5	25,415,125	..	4,665,495
108,174,673	54,240,049	25,219,677	5	25,415,125	..	3,605,247
137,181,345	81,216,985	25,219,677	5	25,415,125	15,000,000	15,582,184
71,663,615	23,496,768	25,219,677	3	15,249,075	..	..
79,118,508	38,829,782	18,914,757	..	..	..	20,915,025
1915 to Sept. 30						

†Deficit.

**EARNINGS AND DISTRIBUTION THEREOF
SINCE ORGANIZATION.**

Profits from April 1, 1901, to November 31, 1914.....	\$ 949,473,971
Deductions, special reserves, etc.....	27,475,031
Preferred dividends paid (96½%).....	370,293,337
Common dividends paid (42½%).....	216,006,707
Total dividends paid.....	586,300,044
Surplus profits.....	335,698,895
Appropriated for new property and payment of capital expenditures.....	218,694,423
Charged off for expense of conversion of preferred stock and issue of 10-60 bonds.....	6,800,000
 Balance of profits.....	 \$ 110,204,472

STATEMENT OF UNDIVIDED SURPLUS

since organization on April 1, 1901, and as of Dec. 31, 1914.

Working capital at organization.....	\$ 25,000,000
Balance of surplus accumulated by all companies to Dec., 1914.....	110,204,472

Total undivided surplus.....	\$135,204,472
Total bond, debenture and mortgage debt in hands of public at end of each year since organization:	

1901.....	\$381,909,475
1902.....	363,655,459
1903.....	553,447,257
1904.....	575,146,147
1905.....	570,472,264
1906.....	564,670,876
1907.....	602,320,511
1908.....	594,865,534
1909.....	607,584,174
1910.....	597,136,659
1911.....	621,054,300
1912.....	643,537,181
1913.....	627,366,681
1914.....	627,238,417

UNFILLED TONNAGES BY QUARTERS.

Year	March 31.	June 30.	Sept. 30	Dec. 31
1902.....		4,791,993	4,843,007	5,347,523
1903.....	5,410,719	4,666,578	3,278,742	3,215,123
1904.....	4,136,961	3,192,277	3,027,436	4,696,203
1905.....	5,579,560	4,829,655	3,865,377	7,605,086
1906.....	7,018,712	6,809,589	7,936,884	8,489,718
1907.....	8,043,058	7,603,878	6,425,000	4,624,553
1908.....	3,765,343	3,313,876	3,421,977	3,603,527
1909.....	3,542,595	4,057,939	4,796,833	5,927,031
1910.....	5,402,514	4,257,794	3,158,106	2,674,757
1911.....	3,447,301	3,361,058	3,611,317	5,084,761
1912.....	5,304,841	5,807,346	6,551,507	7,932,160
1913.....	7,468,956	5,807,317	5,003,785	4,282,148
1914.....	4,653,825	4,032,857	3,787,667	3,836,643
1915.....	4,255,749	4,678,196	5,317,618	7,806,220

EXPORTS OF THE U. S. STEEL CORPORATION.

Year	Gross Tons
1902.....	275,833
1903.....	350,824
1904.....	1,001,716
1905.....	928,899
1906.....	1,049,717
1907.....	985,041
1908.....	775,345
1909.....	985,474
1910.....	1,195,465
1911.....	1,708,487
1912.....	2,243,138
1913.....	1,813,072
1914.....	1,144,214

RANGE OF STOCK PRICES.

	Preferred		Common	
	High	Low	High	Low
1901.....	107 $\frac{1}{8}$	69	55	24
1902.....	97 $\frac{3}{4}$	79	46 $\frac{3}{4}$	29 $\frac{3}{4}$
1903.....	89 $\frac{3}{4}$	49 $\frac{3}{4}$	39 $\frac{1}{8}$	10
1904.....	95 $\frac{5}{8}$	51 $\frac{1}{4}$	33 $\frac{1}{2}$	8 $\frac{3}{8}$
1905.....	107	90 $\frac{3}{4}$	43 $\frac{1}{4}$	24 $\frac{1}{8}$
1906.....	113 $\frac{1}{4}$	98 $\frac{3}{4}$	50 $\frac{1}{4}$	32 $\frac{1}{8}$
1907.....	107 $\frac{3}{4}$	79 $\frac{1}{8}$	50 $\frac{3}{8}$	21 $\frac{1}{8}$
1908.....	114 $\frac{5}{8}$	78 $\frac{1}{2}$	58 $\frac{3}{4}$	25 $\frac{3}{4}$
1909.....	131	107	94 $\frac{1}{8}$	41 $\frac{1}{4}$
1910.....	125 $\frac{5}{8}$	110 $\frac{1}{2}$	91	61 $\frac{1}{8}$
1911.....	120 $\frac{1}{8}$	103	82 $\frac{1}{8}$	50
1912.....	117	107	80 $\frac{3}{4}$	58 $\frac{1}{4}$
1913.....	110 $\frac{3}{4}$	102 $\frac{1}{2}$	69 $\frac{1}{8}$	49 $\frac{7}{8}$
1914.....	112 $\frac{3}{4}$	103 $\frac{1}{4}$	67 $\frac{1}{4}$	48
1915.....	117	102	89 $\frac{1}{2}$	38

EMPLOYES AND PAYROLL.

Year ending December 31st	Number Employes	Total Pay Rolls	Average Yearly Wage
1902.....	168,127	\$120,528,343	\$716.88
1903.....	167,709	120,763,896	720.08
1904.....	147,343	99,778,276	677.18
1905.....	180,158	128,052,955	710.78
1906.....	202,457	147,765,540	729.86
1907.....	210,180	160,825,822	765.18
1908.....	165,211	120,510,829	729.44
1909.....	195,500	151,663,394	775.77
1910.....	218,435	174,955,139	800.95
1911.....	196,888	161,419,031	819.85
1912.....	221,025	189,351,602	856.70
1913.....	228,906	207,206,176	905.20
1914.....	179,353	162,376,907	905.36

	NET EARNINGS BY MONTHS SINCE ORGANIZATION.						
	1915	1914	1913	1912	1911	1910	1908
January.....	\$ 1,687.150	\$ 4,941.337	\$ 11,342.533	\$ 5,243.406	\$ 5,869.416	\$ 11,316.014	\$ 5,052.743
February.....	3,638.587	5,655.611	10,830.052	5,427.320	7,180.928	11,616.861	5,709.428
March.....	7,132.681	7,397.433	12,254.217	7,156.247	10,468.859	14,684.001	7,466.834
Total.....	12,457.809	17,994.381	34,426.802	17,826.973	23,519.203	37,616.876	18,229.005
April.....	7,286.408	6,920.879	13,072.710	7,509.207	9,412.573	13,414.956	6,761.680
May.....	9,320.576	6,845.823	14,554.566	8,846.822	9,590.444	9,661.228	6,021.279
June.....	11,343.070	6,690.894	13,592.537	8,746.237	9,105.503	13,526.716	7,482.797
Total.....	27,950.055	20,457.596	41,129.813	25,102.266	28,108.520	40,170.961	20,265.756
July.....	12,048.218	7,475.993	12,936.658	9,322.142	8,750.467	12,132.188	8,599.630
August.....	12,869.099	7,584.926	12,657.430	10,583.377	10,710.145	13,132.755	9,152.311
September.....	13,793.327	7,215.083	12,856.312	10,157.993	10,062.113	12,100.244	9,354.333
Total.....	38,710.644	22,276.002	38,450.400	30,063.512	29,522.725	37,365.187	27,106.274
October.....	5,580.533	11,430.461	12,485.412	9,159.339	10,512.131	9,415.668	6,205.005
November.....	2,798.388	7,392.167	11,120.749	6,946.717	8,228.957	13,711.765	8,756.729
December.....	2,556.714	4,261.702	11,575.761	7,048.962	7,160.742	13,222.776	8,014.278
Total.....	10,935.635	23,084.330	35,181.922	23,155.018	25,901.730	40,982.746	26,246.575
Total for year.....	71,663.615	137,181,345	108,174,673	104,305,466	141,054,754	131,491,414	91,847,710
Total for year.....	1907.	1906.	1905.	1904.	1903.	1902.	1901.
January.....	\$ 12,838.703	\$ 11,856.375	\$ 6,810.847	\$ 2,868.212	\$ 7,425.775	\$ 8,901.015	.....
February.....	12,145.815	10,938.275	6,629.463	4,540.672	7,730.361	7,678.583	.....
March.....	14,137.974	13,819,840	9,585.586	6,036.346	9,912.571	10,135.858	.....
Total.....	39,122.492	36,614.490	23,025.896	13,445.231	25,068.707	26,715.457	.....
April.....	14,600.838	12,581.902	9,037.925	6,863.833	10,905.204	12,320.766	7,356.744
May.....	16,056.882	14,041,601	10,602.187	6,256.340	12,744.324	13,120.930	9,612.349
June.....	14,846.035	13,501,530	10,665.004	6,370.374	12,992.780	12,220.362	9,394.747
Total.....	45,503.755	40,125.033	30,305.116	19,490.725	36,642.308	37,662.058	26,363.843
July.....	13,804.167	12,242.098	9,035.168	6,344.771	12,384.647	12,041.914	9,580.151
August.....	15,279.173	13,158.860	10,986.901	6,202.957	10,918.174	12,972.729	9,810.880
September.....	14,720.945	12,713.666	11,218.513	6,226.204	9,120.134	11,930.846	9,212.812
Total.....	43,804.285	38,114.624	31,240.582	18,713.932	32,422.955	36,945.489	28,663.843
October.....	17,052.211	14,984.926	12,400.306	7,675.141	7,675.141	12,322.707	12,777.744
November.....	10,467.253	13,482.464	11,827.215	7,117.418	4,069.901	10,086.906	9,795.841
December.....	5,034.531	13,277.574	10,988.541	7,099.010	3,292.140	8,646.146	7,758.298
Total.....	32,553.995	41,744.964	35,216.062	21,466.631	15,037.182	31,985.759	29,759.913
Total for year.....	160,984.527	156,599.111	119,787.656	73,176.519	109,171.152	133,308,763	.....

APPENDIX

NNNN NUMBER OF COMMON STOCKHOLDERS

NUMBER OF PREFERRED STOCKHOLDERS

JAN.	FEB.	MCH.	AFL.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	
				18,569					22,321			1901
25,296		27,172		27,705					29,381			1902
31,799		33,183		34,938					40,128			1903
42,720		43,852			44,232				42,759			1904
39,689		38,279				37,734			37,042			1905
37,788		38,736					40,004			40,718		1906
43,459		47,987					49,771			56,449		1907
62,574		62,435					61,615			61,643		1908
63,724		62,542					60,907			61,072		1909
63,040		63,358					64,825			66,084		1910
67,079		67,461					67,113			67,892		1911
69,993		69,786					69,669			70,608		1912
74,626		74,593					75,128			77,422		1913
81,324		80,403					79,946			82,137		1914
85,912		85,768								85,561		1915

